Knowledge Management Practices in University Administration: The Case of the University of Zambia

by

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DECLARATION

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ABSTRACT

The thesis set out to establish the nature and level of knowledge management practices in the administration of the University of Zambia (UNZA) in order to learn more about the state of knowledge management in higher education. To this end a previously validated knowledge management assessment tool developed by Botha and Fouché (2002) was adapted for use in the higher education context.

The case study of UNZA used a mixed methods approach in which data was collected by means of a questionnaire based on the knowledge management assessment tool that was sent to a selection of administrative and management staff based on simple random sampling. At the same time, open-ended questions were asked of respondents in interviews for which a purposive sampling approach was used to select the interviewees. Out of a population of 132 management and administrative staff, a sample of 99 was surveyed and 9 senior managers were purposively sampled for interviews. The response rate for the survey was 75.76%, whilst the response rate for interviews was 90%. Empirical data was collected from November 2016 to March 2017.

The findings indicate that UNZA established some knowledge management enablers and there were active knowledge management practices. It is demonstrated that UNZA implicitly applied knowledge management principles and have started initiatives and established practices that can be identified as knowledge management related. However, UNZA did not institute knowledge management formally and deliberatively. For this reason, the identified knowledge management practices are not particularly well coordinated and are hard to improve on actively. In view of these findings, the study concludes with benchmarking guidelines for knowledge management implementations in university administrations. In addition, the study proposes further research on developing knowledge management strategies and implementation framework for the strategies.

KEY WORDS: Knowledge management, knowledge management practices, knowledge management enablers, knowledge management implementation, knowledge exploitation, knowledge retention, organizational learning, university administration.

OPSOMMING

Die tesis poog om die aard en vlak van kennisbestuurspraktyke in die administrasie van die Universiteit van Zambië (UNZA) vas te stel om sodoende meer te leer oor die aard van kennisbestuur in die hoër onderwysomgewing. Vir hierdie doel is 'n voorheen gevalideerde kennisbestuur-assesseringsinstrument wat deur Botha en Fouché (2002) ontwikkel is, aangepas vir gebruik in die hoër onderwysomgewing.

Die gevallestudie van UNZA gebruik 'n gemengde metodesbenadering waarin data versamel is met 'n vraelys gebaseer op die kennisbestuursassesseringsinstrument wat aan 'n eenvoudige ewekansige steekproef van administratiewe en bestuurspersoneel gestuur is. Terselftertyd is meer oop vrae gevra aan respondente in onderhoude waarvoor 'n doelgerigte steekproefbenadering gebruik is om die respondente te kies. Uit 'n bevolking van 132 bestuurs- en administratiewe personeel is die vraelys aan 'n steekproef van 99 gestuur en 9 senior bestuurders is doelgerig geselekteer vir onderhoude. Die reaksiekoers vir die opname was 75.76%, terwyl die reaksiekoers vir die onderhoude 90% was. Empiriese data is tussen November 2016 en Maart 2017 versamel.

Die bevindings dui daarop dat UNZA sommige kennisbestuursbemiddelaars gevestig het en daar is aktiewe kennisbestuurspraktyke in die administrasie. Daar word getoon dat UNZA implisiet kennisbestuursbeginsels toegepas het en inisiatiewe en gevestigde praktyke begin het wat geïdentifiseer kan word as kennisbestuur. UNZA het egter nie formele en doelgerigte kennisbestuur ingestel nie. Om hierdie rede is die geïdentifiseerde kennisbestuurspraktyke nie besonder goed gekoördineer nie en is dit moeilik om aktief te verbeter. In die lig van hierdie bevindinge, sluit die studie af met kerfmerk riglyne vir implementering van kennisbestuur in universiteitsadministrasie. Daarbenewens stel die studie verdere navorsing voor oor die ontwikkeling van kennisbestuurstrategieë en implementeringsraamwerk vir die strategieë.

SLEUTELWOORDE: Kennisbestuur, kennisbestuurspraktyke, kennisbestuurskondisies, Kennisbestuursimplementering, Kenniseksploitasie, Kennisbehoud, Organisatoriese leer, Universiteitsadministrasie.

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DEDICATION

To two women of substance:

My wife

Lukwesa Musolo-Mvula

Who delayed her educational advancement to take care of our children when I rarely had time for them as I endeavoured to complete this work, even during the long and odd hours I spent in the office and in the library.
Yours Sweetheart is a contribution of Self-sacrifice, Understanding, Encouragement, Perseverance and Love.

&

My late mother

Mrs. Tyness Jere-Mvula
(AGOGO – A grandmother to many)

Who believed in me. Even through hard times of ill health, she showed me the love and spirit of never giving up on education.
For you were ready to sacrifice your life for my education and your desire has kept me on a path of discovery. It is a pity that it is being achieved when you are gone.

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ABBREVIATIONS

CICT	Centre for Information and Communication Technologies
HEA	Higher Education Authority
ICT	Information Communication Technologies
IT	Information Technology
KMAM	Knowledge Management Assessment Model
KMEs	Knowledge Management Enablers
KMPs	Knowledge Management Practices
KMRM	Knowledge Management Reference Model
MTRG	Multi-Router Traffic Grapher
UNZA	University of Zambia

CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

This chapter presents the background of the study and the statement of the problem. It further explains the purpose of the study and presents the research objectives and questions that guided the study. The chapter also gives the significance of the study, definitions of the mostly used terms, the delimitations and limitations of the study and the outline of the thesis.

1.1 BACKGROUND OF THE PROBLEM

Knowledge Management has received a lot of attention in the last decade due to the emerging knowledge economy. As businesses compete in the knowledge economy, they are focusing on developing their knowledge to improve competitive advantage. Knowledge has been considered as the primary source of competitive advantage critical to the long-term sustainability and success of organizations in the recent years. Knowledge has increasingly become one of the major resources just like financial and human resources in the effective running of organizations. Tanriverdi & Venkatraman (2005) supports that knowledge has become the key economic resource and the dominant perhaps even the only source of comparative advantage.

Knowledge management is a multidisciplinary subject bordering on strategic management, human resources management, information technology, cognitive science, library studies, computer science, as well as organizational learning. It has therefore been defined in many different ways based on the bias of the field in which it is discussed. However, the general definition of knowledge management that covers most of the disciplines is, the process by which knowledge is created, acquired, shared, utilised and retained in organizations to improve performance and competitive advantage (Mohamad, 2012).

The proliferation of knowledge management in businesses has not spared higher education institutions. While higher education institutions, specifically universities have been known as centres of knowledge generation through research, consultancy and teaching, they have also been managers of knowledge that supports the management and administration of

academic activities. It is this knowledge, which needs to be audited to find out how it is managed. Roth & Lee (2009) fosters that higher education institutions have a long history of knowledge related activities, including various types of management to deal with knowledge production, repository and sharing. In view of this, Goddard (1998) posits that higher education institutions must be seen as knowledge businesses. In order to compete in the knowledge based society, higher education institutions need to explore and apply knowledge management practices to improve administrative and academic activities. Roth & Lee (2009: 22) advance that, "in order for organizations (including universities) to survive in a rapidly changing economy, they must be able to recognize the significant role of internal and external forces, maximize the utility of resources, and transform their structures and cultures".

Knowledge management practices have received two-fold approaches namely; knowledge flows and efficiency and financial valuation of stocks of intellectual capital. Many studies have been conducted on knowledge management focussing on intellectual capital, whilst little research has been conducted on the knowledge practices and benchmarking approach, which focuses on the enabling practices used to promote effective creation, acquisition and utilisation of knowledge resources and assets (Botha, 2005). Skyrme (1998) and Arthur Anderson consulting group in a joint development with the American productivity & Quality Centre (RSA 1996) are exponents of the benchmarking approach.

Successful knowledge management implementation can be fully understood if one identifies and investigates the factors or enablers that influence the success of knowledge management initiatives. Enabler factors should be clear in an organization, because not only do they create knowledge but they also prompt people to share their knowledge and experiences with others (Yeh, Lai, & Ho, 2006). This research concentrated on the knowledge practices and benchmarking approach by focusing on enabling practices used to promote knowledge creation, acquisition, capture, sharing, utilisation, transfer and retention of knowledge resources and assets in university administration. This research drew on existing studies, frameworks and models that have already identified the factors that potentially affect knowledge management success.

Therefore, this research was directed by Botha & Fouché's (2002) South African Businesses Knowledge Management research. Their research concentrated on knowledge management enablers for effective knowledge management implementation. They

developed a framework, which identified enablers such as leadership, culture, structures, processes, technology, and measurement as key success factors to be used in assessing the knowledge management practices of an organization. This research was conducted in order to establish the nature and level of knowledge management practices in administration at the University of Zambia (UNZA), through the lens of organizational knowledge management enablers.

1.1.1 Brief history of the University of Zambia and higher education environment in Zambia

Higher education in Zambia has become competitive in the last decade. Since independence in 1964, Zambia had one highest institution of learning, the University of Zambia. The University was established by an act of parliament in 1965 and opened its doors in 1966. In 1975, the University of Zambia was divided on federal basis with three constituent institutions, one at Lusaka, one at Ndola on the Copperbelt and the third at Solwezi. The Solwezi Campus, however, was never established. The centralised administrative system created by the federal system was discovered to be too cumbersome, top heavy, too bureaucratic and inefficient (UNZA, 2012). In view of this, the university act was repealed and the subsequent new University Acts (Nos 19 and 20) of 1987 created two independent universities; the University of Zambia and the Copperbelt University. The University Act of 1987 and the repealed Act of 1992 only allowed the establishment of public universities run by the state (UNZA, 2012). The University Act of 1992 was repealed in 1999 and the new University Act no. 11 of 1999 allowed the establishment of private universities.

This development saw the increase in the establishment of higher education institutions such as private universities. Zambia, in 2017 had 63 registered universities with the Higher Educational Authority (HEA). Five (5) public universities and fifty-eight (58) private universities. The increase in number of universities has brought competition in the running of universities. It is against this background that universities need to harness their academic and administrative knowledge to remain competitive and relevant in the industry. The University of Zambia is still held the highest learning institution in Zambia, but for it to remain afloat; its administrative system has to exploit all necessary resources and skills in order to compete with the mushrooming private universities. This research therefore embarked on establishing the nature and level of knowledge management

practices used in the administration of the University of Zambia to have a competitive advantage over other universities.

1.1.2 Administration of The University of Zambia

The University of Zambia (UNZA) was established by the University Act of 1965 and came into effect on 12th November 1965. The principal activities of the university are to: "provide university education, promote research and advancement of learning and disseminate knowledge and without discrimination, to hold out to all persons, who meet all the stipulated academic or professional qualifications, the opportunity of acquiring university education" (UNZA, 2012:2). UNZA organizational structure comprises the University Council, Central Administration, thirteen Schools, one Directorate, two Institutes, and Departments/Units. The Principal Officers of the University are the Vice-Chancellor, Deputy Vice-Chancellor, Registrar, Librarian, Bursar and Dean of Students. All Schools, Institutes, Directorate and Units are headed by Deans, Directors and Managers, respectively. UNZA operates by using a participatory democracy system of governance, for example election of Deans, rotation departmental headship and use of committees.

Schools, Directorates and Central administration are headed by Deans, Directors and Heads of Units respectively who have a chain of subordinates in administrative work such as Assistant Registrars, Managers and Accountants with fixed division of tasks under hierarchical supervision with detailed rules and regulations. Management Team is supervised by the University Council which is the supreme governing body of the university and is comprised of committees to help in the decision making process. The committees of Council include; **Executive, Planning and Resources Committee** which functions and makes major decisions and recommendations on behalf of the University Council on policy and support functions such as teaching, research, consultancy, human resources, finance and other administrative matters; **Finance and Infrastructure Committee** considers financial and infrastructure matters of the University; **Audit Committee** considers matters relating to enforcement of internal controls on University systems, practices and functions; **Remuneration Committee** considers matters relating to remuneration of staff in the University and **Human Resources Committee** considers matters relating to human resources in the University. Management has a mandate to follow and implement the decisions passed by the committees.

The management and administration of the University is very important in the smooth running of the university and to remain competitive in the industry. The administrative function of the university has to utilize all available resources especially the knowledge in management and administrative departments in order to sustain the University's core purpose of research, teaching and learning. It is therefore important to audit the knowledge management environment in which the university operates in, in the growing knowledge economy. This study therefore focused on surveying the knowledge management environment to establish knowledge management practices existent at the University of Zambia for decision making and performance improvement in order to remain competitive in the higher education industry.

1.2 STATEMENT OF THE PROBLEM

The University of Zambia (UNZA) faces a challenge of effective knowledge management in administration and management. With my experience working in administration at UNZA, I have noted a number of knowledge management challenges in the administration of UNZA, which impacts on decision making. For example, despite having operating procedures, guidelines and policies, most decisions are made by intuition of individual administrators. Many administrators are not aware of such policies and operating procedures and hence difficulty to make informed decisions. Sometimes, decisions are contradicting from different administrators handling similar cases (e.g registration of students without course pre-requisites where one may be registered in another school whilst another may be denied to register in another school).

There has been instances of knowledge loss through aging workforce, staff transfer to different positions within the university, staff resignation and inefficient operating procedures. In such instances, knowledge has not been captured and preserved for future use and reference in decision-making. Decision making in most cases is delayed due to inadequate or lack of access to knowledge for decision making.

Research has been conducted by Wamundila & Ngulube (2011) on knowledge practices at UNZA that revealed a number of knowledge management practices. However, their research revealed knowledge management practices at UNZA as a whole, and to a lesser extent in administration. Their research also concentrated on the valuation of stocks of intellectual capital. For effective knowledge management practices to flourish in an

organization, the organizational environment should be mature to enhance knowledge management implementation. There is a problem of lack of knowledge management practices in administration at UNZA. To address this problem, this research undertook the view of Chen & Burstein (2006:5) which state that, “knowledge management is not only about managing knowledge, but also managing the processes that act upon the knowledge”. This research therefore sought to establish the nature and level of knowledge management practices in administration at UNZA, with a view on the processes and enablers, which act on the knowledge.

1.3 PURPOSE OF THE STUDY

The purpose of the study was to establish knowledge management practices existent in administration at the University of Zambia (UNZA). The knowledge management practices established were looked at from the angle of knowledge management enablers.

Little research has been done to establish the organizational environment enabling knowledge flows and efficiency, whilst much research has been conducted on the valuation of stocks of intellectual capital in higher education institutions. This research therefore concentrated on organizational environment and benchmarking approach of knowledge management practices in university administration.

1.4 RESEARCH OBJECTIVES

The study was conducted to answer the following objectives:

1.4.1 General Objective

The general objective of the study was to establish what knowledge management practices existed in administration at UNZA.

1.4.2 Specific Objectives

Specific objectives of the research were to:

i) identify what knowledge management practices existed in administration at the University of Zambia.

ii) assess leadership involvement in knowledge management at UNZA.

iii) explore UNZA's administrative culture in knowledge management.

iv) examine UNZA's administrative and organizational structure with regard to knowledge management.

v) determine UNZA administrative processes of knowledge management.

vi) explore technological infrastructure which support knowledge management in administration at UNZA.

vii) identify measurements of knowledge management enablers in administration at UNZA.

1.5 RESEARCH QUESTIONS

The following were the questions that guided the research:

i) What knowledge management practices exist in administration at the University of Zambia?

ii) What role does UNZA management play in preparation and communication of the University Strategic plan?

iii) Does UNZA's vision and strategy align knowledge management with operational objectives?

iv) Is there a conducive culture towards knowledge contribution and sharing in administration at UNZA?

v) Does governance structure of UNZA's administrative departments promote knowledge management practices?

vi) Do work processes in administration at UNZA support effective knowledge management?

vii) Do technological infrastructure and systems support effective knowledge management in administration at UNZA?

viii) Is knowledge management environment monitored and evaluated in administration at UNZA?

1.6 SIGNIFICANCE OF THE STUDY

Knowledge management has received unprecedented research interest in recent years. Knowledge management research in the recent times has concentrated much on intellectual capital rather than knowledge enablers and benchmarking approach. Despite little research on knowledge enablers and benchmarking of knowledge management practices, most of such research has been concentrated in business environment rather than in higher education institutions such as universities.

There is scarcity of literature in the area of knowledge management for higher education administration. Most researchers concentrate on how knowledge management can help academics enhance performance for teaching and learning as well as research and development purposes. Even the little knowledge management research conducted on higher education administration has concentrated on valuation of intellectual capital. There is little research on enabling knowledge management environment and benchmarking of knowledge management practices in university administration.

This research therefore concentrated on knowledge management enablers and benchmarking of knowledge management practices in the administration of universities. The research may benefit university administrators and managers in effective knowledge management practices' implementation. The research may further dispel findings of previous research done at UNZA on the existence of certain knowledge management practices. The findings of the study may change the perception of knowledge management in higher education and gives a new direction of research in university administration. Further, this study developed benchmarking guidelines for knowledge management implementation in university administration. The guidelines can be adapted by other public universities to assess the readiness of their knowledge management environment for effective knowledge management implementation.

The research study will also raise awareness at UNZA for gaps in peoples' perceptions on the nature and level of knowledge management practices in administration. Further, the research study findings open an opportunity to advocate for academic and other institutions to assess the organizational environment that promote knowledge management, as well as assessing awareness of their knowledge management practices. The value of knowledge management is greatly affected if staff are not even aware of tools and implementations.

1.7 DEFINITION OF TERMS

The key words and phrases that support the thesis are defined below in order to give the reader the appropriate context in which they have been used.

1.7.1 Knowledge

Knowledge is difficult to define as it falls in a multi-disciplinary bracket with different meanings in each of the fields it is being discussed. Knowledge has been defined as, "justified true beliefs", by Nonaka & Takeushi (1995). According to this definition, knowledge is viewed as a conviction of truth of an individual after gaining a combination of experience; values, contextual information and expert insight that help evaluate and incorporate new experience and information (Gammelgaard & Rittter, 2000). Knowledge is demonstrated through people's actions and behaviours after being embedded in their minds overtime.

1.7.2 Knowledge management

Knowledge management is the process by which knowledge is created, acquired, shared, utilised and retained in organizations to improve performance and competitive advantage (Mohamad, 2012).

1.7.3 Knowledge management practices

These are organizational capabilities, which covers any intentional and systematic process or practice of acquiring, capturing, storing, sharing, transmitting and using productive knowledge wherever it resides to enhance learning and performance in organizations (Scarborough, Swan & Preston, 1999).

1.7.4 Knowledge management enablers

These are organizational factors, which influence knowledge management implementation. These are factors that influence people to create, share and apply knowledge in an organization (Yeh, Lai, & Ho, 2006).

1.7.5 Leadership

Leadership in this thesis is taken to mean organizational management having a clear vision of the knowledge contribution to the business, articulating and communicating it well, coupled with inspirational motivation.

1.7.6 Culture

Culture in this thesis is taken as a set of values, beliefs, norms, meaning and procedures shared by organization members (Roobin, 2004).

1.7.7 Organizational Structure

Organizational structure is defined as the formal allocation of work roles and administrative mechanism to control and integrate work activities. Organizational structure also reflects the way in which information and knowledge is distributed within an organization, which affects the efficiency of their utilization.

1.7.8 Processes

Processes refers to something that can be done with knowledge in the organization. Processes can be described as methods and systems for creating, acquiring, capturing, disseminating and applying experiences, for the benefit of an organization (Johannssen, 2000).

1.7.9 Technology

Technology in this thesis is taken to mean tools that support knowledge creation, knowledge sharing and knowledge application processes through the conversion of knowledge from inputs to outputs.

1.7.10 Measures

Measurement refers to organizations' knowledge management evaluation plan that identifies knowledge management enablers and how their interrelationships provide a valid assessment of their knowledge management value (Botha & Fouché, 2002)

1.8 DELIMITATIONS AND LIMITATIONS

The study focused on knowledge management practices in the administration of UNZA. The study was therefore limited to organizational knowledge management and not the academic knowledge of UNZA. The study was further limited to the knowledge management enabling environment and knowledge management practices benchmarking approach. The research was guided by Botha & Fouché's (2002) Knowledge Management Reference Model, which was tailored, to university context.

Strengths of the study are that benchmarking guidelines for knowledge management implementation in university administration were developed and can be applied to other universities with similar circumstances like the University of Zambia.

Limitation of the study was the narrowing of the study to one institution in that it might be difficult to generalise the findings. Findings obtaining at UNZA may not be the case in other universities. The case study was not framed in the broader context of knowledge management in higher education administrations. Further, the literature surveyed was mainly on universities and critical discussion was not engaged on why knowledge management in university administration was different to administration in any other service oriented organizations such as in banking, health and insurance. Time constraint was another limitation. Research was not completed on time considering that this was part-time study and the researcher was in full-time employment.

The researcher was an employee of the institution under study and this could have influenced the interpretation and discussion of the findings. However, objectivity was adhered to by using a mixed method approach in data collection and mixed ways of verification through methodological coherence, sampling sufficiency, collecting and analysing data concurrently, discrepant information that ran counter to the themes were also presented, peer debriefing and use of uniform interview guide and questionnaire.

1.9 THESIS LAYOUT

The thesis is organized in six chapters. Chapter One gives the background of the problem, the brief history of the University of Zambia and higher education environment in Zambia, the administration style of the University of Zambia and the statement of the problem. The chapter further gives the purpose of the study, the objectives and questions that guided the

research, the significance of the study, the definition of concepts that supported the study and the delimitations and limitations of the study.

Chapter Two presents the literature review and the conceptual framework that guided the study. The literature review presents previous research works on knowledge management in higher education institutions and specifically in university administration. It further presents research works on knowledge management practices and knowledge management enablers. The conceptual framework is presented at the end of the chapter.

Chapter Three presents the methodology used in the study. It presents the research approach, the research design, the researchers role, the data sources and selection used, the data collection instruments used, the methods of data analysis, the verification process and the ethical considerations adhered to. The fourth chapter is the presentation of findings from both the survey and the interviews.

The interpretation and discussion of the research findings is presented in Chapter Five. The chapter integrates the findings from the survey and from interviews. The sixth chapter constitutes the summary of the study, conclusions and recommendations in form of guidelines for knowledge management implementation in university administration. The chapter also provides suggestions for future research.

1.10 CONCLUSION

This chapter presented the background and context of the study. It illuminated the research problem and the purpose of the study. The chapter further presented the research objectives and research questions that guided the study and expressed the significance of the study. The key words and phrases used in this thesis were defined in the chapter as well. The chapter concludes with the delimitations and limitations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter presents an overview of the published literature on knowledge management practices, knowledge management in universities and knowledge management enablers in organizations and specifically in universities and university administration. The chapter firstly presents literature on knowledge management, then knowledge management practices in universities and knowledge management enablers. The chapter further provides a conceptual framework used in the study.

2.1 REVIEW OF PAST LITERATURE

Literature review is a survey of literature on a similar subject being researched on (Machi & McEvoy, 2009). The literature review for this study covers literature on understanding of the concepts, which include Knowledge, Knowledge Management, Knowledge Management Practices and Knowledge Management Enablers. Further, the section covers literature on past studies in Knowledge Management Practices in Universities in general and Knowledge Management Practices in university administration. The last part covers literature on the six elements of the conceptual framework that guided this study.

2.1.1 Knowledge

Knowledge is difficult to define as it falls in a multi-disciplinary bracket with different meanings in each of the fields it is being discussed. Knowledge has been defined as, “justified true beliefs”, by Nonaka & Takeushi (1995). According to this definition, knowledge is viewed as a conviction of truth of an individual after gaining a combination of experience, values, contextual information and expert insight that help evaluate and incorporate new experience and information (Gammelgaard & Rittter, 2000). Gammelgaard & Ritter (2000) emphasize that knowledge is demonstrated through people’s actions and behaviours after being embedded in their minds overtime. Davenport & Prusak (1998) elaborates it more practically that knowledge is,

> … a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms (p.5).

Mohammad (2012) explains that knowledge is considered as the primary source of competitive advantage critical to the long term sustainability and success of organizations. The definition by Davenport & Prusak (1998) extensively captured many insights and was therefore the most underpinning definition used in this study.

2.1.2 Knowledge Management

There is a plethora of definitions for knowledge management because it spans a number of disciplinary boundaries and schools of thought. Darroch (2003) and Firestone & McEllroy (2005) view knowledge management as the management of processes that enable the movement of knowledge into, through and out of the organization with the ultimate aim of enhancing organizational efficiency and performance, whilst others, (Nonaka & Takeushi, 1995; Wigg, 2000) stress that knowledge management encompasses the manipulation of all knowledge related activities, practices, programmes and policies in the organization with the ultimate aim of applying existing organizational knowledge to create new knowledge. Pircher & Pausits (2011) define knowledge management as, “a process that forms determining factors for employees so as to foster the transfer, development and utilization of the knowledge of the organization (individual, organization, explicit, tacit) in the best possible way in order to be able to achieve the strategic aims of the organization” (p.11).

Dalkir (2009), also defined knowledge management as the “deliberate and systematic coordination of an organization’s people, technology, processes, and organizational structure to add value through reuse and innovation” (p. 3132). Mohamad (2012) simplifies that knowledge management can be referred to be processes by which knowledge is created, shared and used in organizations. She adds that knowledge management is about making noticeable changes to the way everyone in the organization work. Anantatmula (2005) advance that the primary focus of knowledge management is to utilise business processes, best practices, culture and information technology and tools to create and share

knowledge within an organization, and connecting those who possesses knowledge to those who need it. With the numerous definitions presented by different scholars, some not presented, it can be seen that knowledge management is like beauty, which lies in the beholder, in this case the meaning of knowledge management lies in the scholar defining it. This study, however, used knowledge management as a process of managing knowledge and processes that act upon the knowledge. This means that apart from what other scholars have written about knowledge management as processes of creation, sharing and utilization of knowledge, the study also looked at critical factors in knowledge management implementation. Critical factors for knowledge management implementation are also referred to as knowledge management enablers.

2.1.3 Knowledge Management Practices (KMPs)

This study borrowed the definition of Knowledge Management Practices (KMPs) from Scarborough, Swan & Preston (1999) that, these are organizational capabilities that covers any intentional and systematic process or practice of acquiring, capturing, storing, sharing, transmitting and using productive knowledge wherever it resides to enhance learning and performance in organizations.

Scarborough, Swan & Preston (1999) argue that, knowledge management practices should be assessed often and appraised in terms of contribution they make to the strategic direction of an organization. Much emphasis has been that, poor KMPs may negatively affect organizational performance through lost institutional memory, knowledge gaps, information redundancy and misinformed decision making. Little has been done to develop rigorous measurements of KMPs within organizations, as Botha (2005:5) noted that, "… although much progress has been made during the past decade to develop a philosophy and conceptual framework of Knowledge Management, the discipline still lacks proven practice."

Extant literature on investigation of KMPs within organizations have generally concentrated on the resource-based view of the organization's ability to mobilize its strategic resources to ensure competitive advantage (Botha, 2005). Scholars such as Wang & Arigyzo (2004); Cummings & Teng (2003); Chang, Lee, Lee & Kang (2004); Choi & Lee (2003) have focused on the measurement of knowledge management processes and concentrated on the analysis of the knowledge creation cycle. They are concerned with the flows of knowledge into, through and out of the organization. However, some researchers such as

Botha & Fouché (2002) have investigated the knowledge management practices that act on the knowledge. Botha & Fouché (2002) conducted a longitudinal study in South Africa on knowledge management practices that act on knowledge in business organizations. Practices that act on knowledge are critical factors that determine effective knowledge management implementation. The work of Botha & Fouché (2002) was very insightful in contextualizing this study on knowledge management practices.

Steyn & Kahn (2008) in their work, '*Towards the development of a knowledge management practices survey for application in knowledge intensive organizations*', identified that the majority of studies in measurement of KMPs and processes in organizations have been inter-organizational and multi-sectoral, focusing on large organizations in the private sector. They posit that little research has been conducted to measure the views of KMPs amongst employees within an organization and even fewer have focused on KMPs within the public sector. This research was conducted to increase the statistics of Steyn & Kahn research on knowledge management practices in the public sector, especially in higher education institutions.

2.1.4 Knowledge Management in Universities

Universities have become the leading mechanisms of society for the continuous search of knowledge (Yaying, 2005), and have been utilised as transfer mechanisms to provide students with a knowledge base that enables them to function (Keramati & Azdeh, 2007). Oakely (2003) illuminates that knowledge and educational institutions are related in two ways: firstly, the education system is about the creation and dissemination of knowledge; and secondly, whatever happens within the system is in itself knowledge-based. Therefore, it is arguably correct to investigate knowledge management practices in higher educational institutions because much of the institutional happenings are knowledge based. It is therefore important to ensure that the knowledge management environment is conducive for effective knowledge management implementation. Knowledge management in universities requires creation of a common strategy with a wilful leadership that is ready to inculcate organizational values, build structures and processes and support technology, which will successfully encourage knowledge management to flourish. Knowledge management initiatives have faced challenges in universities as observed by Roth & Lee (2009) that "higher education leaders face challenges on how to implement strategies for building culture, inculcating and promoting leadership, applying technology, and measuring results" (p.23).

Knowledge management concepts have in recent times gained acceptance in higher education. Universities have realised the need to gain competitive advantage due to increased establishment of universities. Research in knowledge management implementation for universities have been recently explored, but has been limited. Most of the studies on universities have focused on knowledge sharing, knowledge management practices for teaching and learning, knowledge management for problem solving processes, knowledge management for improved university research output and knowledge management technologies in education. This research sought to add on the existing literature on knowledge management, especially in administration and on the processes that act on the knowledge.

Roth & Lee (2009) brings to the fore that higher education in the United States of America was faced with challenges. Their research revealed that universities faced a mass exodus of Baby Boomer retirees, rising college fees and reduced budget funding. They therefore suggested that Vice-Chancellors, Deans and Departmental chairs needed to carefully examine their human resources, organizational culture and the political environment to transform and move their institutions forward. It is only through knowledge management that such challenges could be met. There is need for well–integrated processes of acquiring, integrating and creating knowledge, to be implemented in universities to sail through ashore.

Sohail & Salina (2009) conducted research on knowledge management in universities and their concentration was on knowledge sharing. They indicated that knowledge is shared among faculty staff and through teaching and learning to students. Their research was on academic knowledge and did not assess university organizational knowledge. Another scholar, Daka (2010), also investigated the knowledge sharing culture among academicians in higher learning institutions in Zambia. The research revealed that a culture of knowledge sharing existed among academicians in higher learning institutions in Zambia. Daka (2010) explains that academicians engaged in frequent knowledge exchanges through meetings and person-to-person interactions. She identified institutional policies and knowledge sharing initiatives as major factors that influenced knowledge sharing, while lack of motivation and inadequate infrastructure hindered knowledge sharing. Daka's (2010) research contributed a great deal to academic knowledge management in higher education. Her work was helpful to this study as it provided some insight on knowledge management enablers in university environments. In as much as it is important to investigate academic knowledge in a university set-up, since academics is the sole purpose of university life, it is

also very vital to assess how organizational knowledge is managed and know how knowledge management factors act on the knowledge of intensive knowledge organizations such as universities. This was the purpose of this study.

Some scholars such as Chen & Burstein (2006); Sharimllah Devi, et' al., (2009); Wedman & Wang (2005) conducted research on university knowledge management and their findings revealed that most universities' knowledge management concentrated on knowledge management practices for teaching and learning purposes. Their research did not pay particular attention to knowledge management practices in administration of universities. A gap, which this study sought to fill. Administration of universities requires efficient knowledge management strategies and practices because what is conducted in universities is knowledge intensive.

Hoveida, Shams & Hooshmand's (2008) research in university knowledge management concentrated more on knowledge management for problem-solving processes. A rounded up appraisal of knowledge management practices would have been ideal in order to identify knowledge management practices that could be implemented to prevent certain organization problems from occurring. Other scholars such as Moss, Kubacki, Hersh & Gunn (2007) have written on knowledge management to improve university research output. Their concentration had been on how knowledge management practices of knowledge creation, knowledge sharing and knowledge transfer could be of use to improve research output. Their findings are vital in knowledge management for universities' academic improvement. However, their research need to be supplemented by investigating organizational knowledge management in administration of universities in order to find out how university administration can have competitive advantage over others. This study sought to supplement literature on knowledge management practices in universities with particular attention to administrative services.

Kebao & Junxun (2008) researched on the roles and effect of knowledge management technologies in education. Their findings revealed that knowledge management technologies in education institutions promoted knowledge sharing and knowledge capture. However, they argue that the knowledge captured and shared is rarely utilised. This study fills the gap on assessment of the processes that act on the knowledge that is captured and shared in university administration.

Rowley (2000) in her work, *"Is Higher Education Ready for Knowledge Management*?", posits that universities have a significant level of knowledge management activities and suggest that these should be recognised and used as foundations for further development, rather than re-inventing the wheel. She adds that universities and staff should recognise and respond to their changing role in a knowledge based society. Her main emphasis was that universities must manage consciously and explicitly, the processes associated with the creation of their knowledge assets, and recognize the value of their intellectual capital to their continuing role in society, and in a wider global marketplace for higher education. Rowley's eye-opening suggestion in her work is that although knowledge based organizations might seem to have the most gain through knowledge management, effective knowledge management may require a significant change in culture and values, organizational structures and reward systems.

Universities, in addition to providing knowledge to students, also manage existing university knowledge for future reference. It should be noted that an organization as a unit is represented by two (2) spheres of technical and administrative functions. The technical part of an organization is responsible for producing the product or services that justify the existence of the organization, while the administrative part is responsible for planning, controlling, coordinating organizational functioning, and linking the unit with the remainder of the organization. In relation to universities, the academic part is responsible for providing knowledge and conducting research and the administrative part is responsible for other infrastructure and support of the university. The focus of this research was on the administrative part of the University of Zambia, since nothing much has previously been done to find out how knowledge management in administration of the university has supported its existence over decades.

2.1.5 Knowledge Management in University Administration

Coukos-Semmel (2003) distinguishes two (2) types of knowledge in higher educational settings namely; academic knowledge, which is the primary purpose of universities, and organizational knowledge, which is the overall business of a university, highlighting its strengths and weaknesses, the market it serves and the factors critical to organizational success.

There is scanty literature in the area of knowledge management for administration in universities. Scholars have concentrated their research on how knowledge management

can help lecturers to enhance performance for teaching, learning and research. In as much as knowledge management implementation in teaching is important, it is also important in administrative services of a university. It is against this background that it is ideally important to establish what knowledge management practices act on the knowledge in administrative services of a university.

Knowledge management research in universities has been conducted in Malaysia with a focus on knowledge sharing and critical success factors for knowledge management implementation. It has been observed that the research conducted in Malaysia on knowledge management in higher education focused on knowledge management systems implementation and knowledge sharing and transfer practices for academic purposes (Jain, Sandhu, & Sidhu, 2007). The most renowned work on knowledge management in higher education administration was conducted by Mohamad (2012), in her PhD thesis, '*Knowledge Management as Innovation: Organizational Culture Factors affecting Knowledge Management Practices in Malaysian Higher Educational Administration'*.

Mohamad's (2012) study investigated cultural factors affecting knowledge management in higher education administrative departments in Malaysia. It considered strategic decisions made by university administrations and adoption decisions made by individual staff members. Using a mixed research methodology by combining both quantitative and qualitative phases of data collection, she developed a conceptual model with seven cultural factors on knowledge management practices in higher education administration. Mohamad's (2012) seven cultural factors include knowledge sharing, cooperation, involvement and participation, trust, problem seeking and solving, adaptability to change and sense of vision and mission. Her study identified the contribution and influence these factors make to knowledge management in university administration. The findings of the study showed that the existing knowledge management practices in Malaysian Higher Education Administrative Departments were not as might have been expected from the existing literature.

The research by Mohamad (2012) concentrated on a single knowledge management enabler; culture and went into detail of the cultural factors involved in knowledge management. Her research was insightful to this study as it gave a basis on how cultural factors contributed to knowledge management in university administration. Further, her study used a mixed research methodology to understand the problem in totality. Her

methodology was also adopted by this study in order to produce well-validated and substantiated findings. On the other hand, whilst Mohamad's study concentrated on one critical success factor of knowledge management, this study covered multiple knowledge management enablers, in order to add to the literature of knowledge management enablers and practices in university administration. Apart from this study and Mohamad's (2012) study, most of studies on knowledge management in universities had been on the university as whole unit and focussed much on academic units rather than administrative units, hence creating a gap of research in administration of universities.

Knowledge management is in its development stages in Zambia, and there has been limited research published in the field of knowledge management in university administration. Such research has been conducted by Wamundila & Ngulube (2011) where they concentrated on enhancing knowledge retention at the University of Zambia. They also found out a number of knowledge management practices, such as knowledge assessment, knowledge acquisition, knowledge transfer and knowledge sharing that are existent at UNZA as a whole and not specifically in administrative departments. They also established that knowledge retention was lacking at UNZA. Their research was concerned with intellectual capital and how problems such as high staff turnover, inability to retain experienced and qualified staff, lack of explicit routines and procedure manuals, lack of succession planning, lack of sustained leadership and ineffective information management, could be overcome, through effective knowledge retention and knowledge management policy. While research done by Wamundila & Ngulube (2011) and Daka (2010) concentrated on knowledge retention at the University of Zambia and knowledge sharing among academicians in higher education institutions in Zambia, respectively, this research adds knowledge on knowledge management practices in administration at UNZA, with a lens of knowledge management enablers.

2.1.6 Knowledge Management Enablers

A search on google scholar, UNZA library, Stellenbosch University library revealed that little research had been done on knowledge management implementation and success factors in universities, as compared to business organizations. Further, the materials reviewed revealed different as well as conflicting findings regarding the success factors for knowledge management implementation. The success factors can be described as Knowledge Management Enablers (KMEs). Knowledge management enablers have been defined by Yeh et' al (2006) as mechanisms for organizations to develop its knowledge and stimulate

the creation of knowledge within the organization as well as the sharing and protection of it. Stonehouse & Pemberton (1999) attest that knowledge management enablers are necessary building blocks to improve effectiveness of activities for knowledge management. For knowledge management to be efficiently implemented, it is vital to identify knowledge management enablers/ success factors, because failure to do so might lead to failure in knowledge management implementation.

Knowledge management enablers are varying conditions in the organizational environment, which either foster or deter effective knowledge management implementation. Some of the factors in the environment include work culture, workflow routines, operational procedures, organizational structure as well as technology infrastructure. These factors may play a role either positive or negative, in the way knowledge is managed in an organization. Knowledge management enablers have been identified in profit making organizations by scholars, and have been attested to foster successful implementation of knowledge management to achieve organizational goals and retain competitive advantage.

Research conducted on business firms and non-academic institutions show that several knowledge management enablers exist that can either promote or inhibit knowledge management implementation. A study by Elliot & O'Dell (1999) identified culture, technology, infrastructure and measurement as key enablers and they argue that these enablers are all essential as they work together to yield the sustainable success of knowledge management. Another study conducted on the critical analysis of knowledge management success factors in organization of different fields by Razi & Karim (2010) revealed that knowledge management enablers for effective knowledge management implementation included culture, organizational structure, systematic processes and infrastructure.

A similar study was earlier conducted by Arntzen & Ndlela (2009) where they conducted several interviews with top and middle managers in organizations of different fields. Their findings were that employees' cultures and ICT factors were the most important factors of knowledge management implementation. A review of various knowledge management models by Choy & Suk (2005) in an attempt to develop a knowledge management framework, revealed that employees' culture, organizational leadership, knowledge evaluation, IT infrastructures, knowledge management structure, employee training, employee involvement, open and trustworthy spirit of teamwork and employee

empowerment were the most important factors of knowledge management implementation in various organizations.

Further, a study by Suresh (2012) in Chenai, India, where 160 respondents from different organizations were involved in a questionnaire survey on knowledge management enablers, revealed that knowledge measurement, information technology, processes and organizational culture were among the most important knowledge management success factors in organizations. As observed from the above literature on knowledge management enablers, it can be observed that there are a myriad of organizational knowledge management enablers in different organizations. Higher education institutions are not an exception in this regard.

Despite the few studies on knowledge management enablers in administration of higher education institutions, some scholars have investigated enablers of knowledge management implementation in universities as a whole. A study conducted by Mathi (2004) found that knowledge management enablers such as culture, strategy, IT infrastructure and knowledge measurement were in existence in Germany universities. Leadership support, IT infrastructure, strategy, rewards and culture had been identified by Shoemaker (2014) at Austin State University in the USA, as some of the successful knowledge management enablers.

Another research by Zwain, Teon & Othman (2014) in a questionnaire survey on 41 Iraqi colleges found that leadership commitment, strategic planning, continuous improvement, student focus, process focus, academic staff involvement, training, learning, reward recognition and management by fact were the most inherent knowledge management enablers for knowledge management implementation. All these knowledge management enablers in universities indicates that universities are knowledge based organizations. The above scholars conducted research on universities as a whole, covering areas such as academics, research, training, and learning. Little research was conducted on administrative services of universities, a gap which was of concern to this study.

A survey on Higher Education Institutions in Indonesia, conducted by Nuryasin, Prayudi & Dirgahayu, (2013) identified vision, culture, management support, technology, education and motivation and maintenance as some of critical success factors of knowledge management implementation. Basu & Sengupta (2007) in a survey conducted on an Indian

Business School discovered that integrated technical infrastructure, organizational culture and senior management support were critical drivers of effective knowledge management.

In Malaysia, a study by Ali, Sulaiman & Cob (2014) found that culture, incentives, knowledge management systems and training were among the successful enablers for knowledge management implementation. Yaakub, Othman & Yousif (2014) found that top management support, strategies, planning, innovative enhancement, and IT infrastructure were among the successful enablers of knowledge management implementation in Malaysian higher learning institutions. Further research has been conducted by Nasiruzzaman, Qudaih & Dahlan (2013) on Malaysian Institutions of Higher Learning where some of the findings on knowledge management enablers included proper knowledge practices, strong leadership and robust ICT infrastructure. Yip, Lau & Songip (2010) also supports the above findings in Malaysia higher learning institutions as they also found organizational culture and top management leadership support were critical success factors in knowledge management implementation. It is against this background that this research looked at whether knowledge management enablers ideally play a major role in effective knowledge management in university administration.

A review of the above literature shows that six (6) common knowledge management enablers are discussed by most of the scholars who have done research on knowledge management implementation in universities. The common six (6) enablers identified from a survey of the literature include strategy, culture, ICT infrastructure, processes, structure and measurements. Hasanalli (2003) advance that the success of any knowledge management initiative depends on many factors, some within our control and some not. He categorized critical knowledge management enablers into five categories of leadership, culture, structure, information technology infrastructure and measurements. These enablers are core benchmarks used to conduct a Knowledge Management Survey in South Africa by Botha & Fouché (2002). This research explored whether these knowledge management enablers played a role in enhancing knowledge management practices in university administration.

2.2 CONCEPTUAL FRAMEWORK

Botha & Fouché (2002) developed a reference model to be used for an annual survey of Knowledge Management Practices in the South African business known as the Knowledge

Management Reference Model (KMRM) as shown in figure 1 below. This model focused on the "interrelationship between organizational culture, structure, processes and technology, which constantly align themselves with organizational leadership and are monitored by numerous organizational measures" (Botha 2005:2). The reference model was developed after comprehensive literature review, where they concluded that organizational culture, organizational structure, knowledge based processes and routines, and collaborative information and communication technologies were the interrelated factors to be directed by the leadership, including the knowledge leadership, of an organization by means of appropriate measures of knowledge management practices. The Knowledge Management Reference Model below has been described in detail in Chapter three of this thesis, under 3.5.1: Questionnaire.

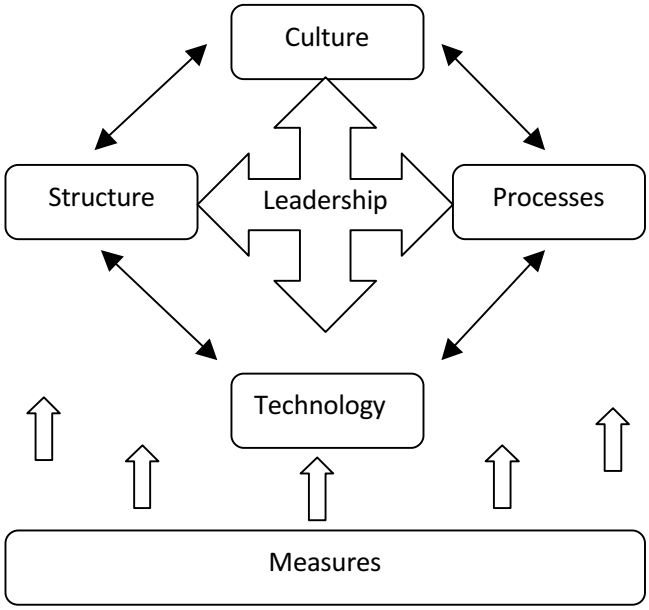


Figure 1: Botha & Fouché's (2002) Knowledge Management Reference Model (KMRM)

Following a similarity of the identified success factors of knowledge management implementation in the literature review, with Botha's Knowledge Management Survey in South Africa, this study was a tailored investigation based on Botha & Fouché's (2002) Knowledge Management Reference Model of the knowledge management enablers. This study sought to analyse the identified enablers if they played a role in knowledge management for university administration. This research endeavoured to find out whether it was true or otherwise, the argument by Botha & Fouché (2002) that their identified drivers

are drivers that can promote effective knowledge management in organizations. The variables and enablers used in the reference model are discussed below:

2.2.1 Leadership

Sunassee & Sewry (2002) explain that organizational leadership is the key knowledge management enabler, which can influence the outcome of an effective knowledge management strategy by influencing the nature of knowledge resources present in the organization, their deployment and their utilization. They argue that to successfully implement knowledge management in organizations, management should ideally create the conditions that cultivate employee acquisition and use of knowledge management skills by enabling convenient access to the needed knowledge resources in the organization. Botha & Fouché (2002) advanced that managers should also be responsible for the proper coordination of an organization's activities by aligning employees' knowledge with the organizational strategy; allocating the appropriate financial resources and assigning staff to infrastructural roles. Further, Kotter (1990) explains that leadership intent is demonstrated by a clear vision, strategy, inspirational motivation and continuous alignment of people to the vision and strategy by an appeal to professional and personal objectives and values.

In addition, Roth & Lee (2009) explains leadership as adopted from the American Productivity and Quality Center (2001) that it indicates the ability of the organization to align knowledge management behaviours with organizational strategies, identifying opportunities, promoting the value of knowledge management, communicating best strategies, facilitating organizational learning and developing measurement indicators for assessing the impact of knowledge. They posit that leadership is a pillar in knowledge management because leaders convey the messages of organizational change, and they send signals portraying the importance of adopting knowledge management across an organization. In the context of this study, leadership meant the ability that enables university leaders to align knowledge management behaviours with organizational strategies, offer an opportunity and a direction, identify and recognize best practices and performances and facilitate organizational learning in order to achieve the established goals. Hasanalli (2003) also wrote likewise that the role played by leadership in ensuring successful implementation of any initiative in an organization is key. Hence, in knowledge management initiatives, leadership is very cardinal because nothing makes greater impact on an organization than when leaders model the behaviour they are trying to promote among employees. This study was designed to assess

UNZA's leadership in proving arguments advanced by the above scholars. In assessing leadership, the study focused on the university vision, strategy and organizational learning.

2.2.2 Culture

Organizational culture is a set of values, beliefs, norms, meaning and procedures shared by organization members (Roobin, 2004). Organizational culture has been regarded as a key component of any effective knowledge management practice. It has been identified by many scholars, such as Wong (2005), as the main obstacle that organizations deal with in order to create a successful knowledge-based business. Rollet (2003) described organizational culture as being either a driver or inhibiter of organizational knowledge management practices, and the most difficult organizational component to control. This premise has been supported by Davel & Snyman (2005) that; types of culture present in an organization affect the way in which knowledge is managed, and can, as a result, either persuade or discourage the use of knowledge management practices. Positive culture can encourage knowledge sharing, contribution, collaboration and cooperation between organizational members. Mohamad (2012) affirm that organizational culture is important in an organization because organizations are driven by a vision that should be associated with a shared culture of beliefs and practices.

Long (1997) advanced that culture defines both what knowledge is valued and what knowledge must be kept in an organization. Lee & Choi (2003) illuminates that for organizations to be successful in knowledge management implementation, they should establish an appropriate culture that encourages people to create and share knowledge. Culture promotes collaboration and sharing of knowledge. Botha & Fouché (2001:4) recommends that,

> a culture characterised by openness and trust, access to information, communication and collaboration across departmental boundaries and hierarchical levels, the accessibility of senior management, empowerment of individuals and teams, incentives for knowledge sharing, and a propensity to experiment and learn, is considered to be conducive to the effective creation and application of knowledge in organizations.

The emphasis by Botha & Fouché (2001) in the above statement is that the key attributes of a knowledge enriching culture are; an intense communication climate of openness and trust, a clear understanding of the mutual benefits of knowledge sharing, an obsessive urge to

exploit knowledge presented by collaborative joint venture, alliances and partnerships (Botha & Fouché, 2001:14).

They add that,

> The exploitation of opportunities created by a workplace setting of open spaces, co-location and informal meeting places should be part of daily organizational routine. Communication and collaboration across organizational hierarchical structures should not only be permitted but also be strongly encouraged. Pride in individual group, team and organizational achievement should be socialized, whilst risk taking and failure are recognized as organizational and individual learning (Botha & Fouché, 2001:14).

The observations by Botha & Fouché (2001) are supported by Kermally (2002) who advance that creating a knowledge-driven organization involves factors such as tolerance, empowerment, trust, networking, open communication, recognition, diversity and talented individuals. He adds that leadership is critical in creating such an organization. This study dwelt on the above statement by Botha & Fouché when assessing the culture of the University of Zambia. To assess culture, the study focused on communication, collaboration, workplace environment, knowledge sharing and knowledge contribution. Botha & Fouché (2001) emphasize that culture is the key factor that determines success or otherwise with knowledge management and therefore, creating the right attitudes and behaviours can engender a culture of knowledge awareness. The study endeavoured to assess UNZA's administrative culture, whether it promoted knowledge management practices as advanced by Botha & Fouché (2001), Rollet (2003) and many other authors, that it plays a major role in efficient organizational knowledge management practices.

2.2.3 Structure

Organizational design is one of the key enablers to successful knowledge management (Meyers, 1996). Organization design covers elements of an organization's structure and includes the division of labour, the allocation of decision rights, and demarcation of organizational boundaries and networks of informal relationships. Pinchot & Pinchot (1996) advance that; for knowledge to be utilised effectively in the knowledge economy, organizations need to make some fundamental shifts in terms of organizational structure. They further explain that, these shifts include a move from individual work to team work, from functional work to project-based work; from single skilled personnel to multi-skilled employees and from co-ordination from above to co-ordination among peers.

The structure of an organization plays a major role in the way organizations conduct their operations and therefore affects how knowledge is created and shared amongst employees. There are different structures in organizations. These include hierarchical structures, centralized structures, decentralized structures and other hidden structures such as those shaped by project teams, work-related roles and friendships. Structures experienced in an organization shape the way knowledge management initiatives such as creation, sharing and application are implemented. Hierarchical structures hinders creativity, innovation, experimentation, communication and knowledge integration. On the other hand, decentralised structures coupled with other hidden structures based on work roles and friendships encourages communication, spontaneity, experimentation, freedom of expression and knowledge integration. Organizational structure determines how information and knowledge flow from level to level within an organization. In centralized structures, decision flow from top to down, whilst in decentralised structures, decisions are made at various different levels.

Botha & Fouché (2001) advance that knowledge belongs to communities of practice, which are collections of individuals bound by informal relationships, with similar work roles. They add that knowledge acquisition, creation and knowledge integration takes place in such communities. Their core argument on organizational structure is that organizations should have structures that foster solid relationships and effective collaboration such as project teams and other task oriented groups and cross divisional units to accommodate multi-disciplinary and cross-functional members, in order to enhance knowledge integration and knowledge creation. Botha & Fouché (2001) add that a structure with formally institutionalized knowledge management roles and responsibilities coupled with regular management-employee feedback communication on knowledge performance, can sustain prominent knowledge awareness. Organizational structures should also consist of formalized incentive systems for knowledge management sharing and contribution initiatives, just as formal and informal networking with external organizations should be encouraged. This study focused on teams and groups, knowledge management roles, management communication, incentive systems and external structures in assessing the organizational structure of the University of Zambia administration.

2.2.4 Processes

Knowledge management processes refers to something that can be done with knowledge in the organization (Johannssen, 2000). Processes can be described as methods and systems

for creating, acquiring, capturing, disseminating and applying experiences, for the benefit of an organization. Botha (2000) explains that the processes of knowledge management should be imbedded into efficient organizational routines. This implies that organizations should have clear processes to create, share, apply and protect the knowledge of individuals. Studies by Mathi (2004) and Zwain, Teong & Othman (2014) linked the success of knowledge management implementation to information and technology and systematic processes.

Botha & Fouché (2001) advance that knowledge integration is the most important process in organizations. They add that knowledge integration can be done though knowledge codification and knowledge diffusion. Knowledge codification being information processing and diffusion being creation and innovation. These processes of knowledge management include identifying what knowledge the organization possess and with whom it resides. The knowledge identified can therefore be codified into standard operating procedures, or integrated through mentoring, shared among employees and retained by the organization. Botha & Fouché (2001:6) agree with Davenport and Prusak (1998) that, "organizational knowledge is not only embodied in people or embedded in documents or repositories, but also in organizational routines, processes, practices and norms". This study examined UNZA's processes and how they supported organizational knowledge management. The focus was on the processes of standard operating procedures, knowledge integration, information management and knowledge retention.

2.2.5 Technology

Knowledge management technologies are tools that support the knowledge creation, knowledge sharing and knowledge application processes through the conversion of knowledge from inputs to outputs. Technological infrastructure enhance knowledge inputs by condensing, filtering and presenting data, storing it, facilitating its flow through the organization and finally supporting the thinking processes that inform effective decision making (Skyrme (1998:73). The idea of information technology's critical role in knowledge management implementation has been questioned by some scholars that IT only plays a role of knowledge repository but few people read what has been stored. On the other hand, McCampbell, Clare & Glitters (1999) argue that information technology is one of the key factors that influence knowledge management implementation, as long as it is well-developed. Yeh et' al (2006) affirm that Information technology facilitates quick search, access of information, cooperation and communication between organizational members. In

unison but with an addition, Davenport & Prusak (1998) articulate that effective knowledge management requires a hybrid solution of people and technology. They explain that people need to be ready for knowledge management by using technology.

Alavi & Leidner (2001) support the notion that information technology plays an important role in supporting the organizational knowledge process. Information technology has been connected to knowledge management because it helps distribute knowledge in an organization and makes it easily searched and utilized. According to Botha & Fouché (2001), information system architecture must be aligned to support and accommodate knowledge management applications. They crystalize that information and communication infrastructure should provide people-to-people and people-to-information connectivity and networkability. They however warn that organizations should not entirely rely on information technology to supply their knowledge management needs, but that information technology should be aligned with the organization's culture, structures and processes. This is a similar view by Hasanalli (2003) that most organizations fall into a trap of focussing too much on IT. He warns that a knowledge management initiative is not a software application, but that IT is just a part of knowledge management and it should be aligned to organizational culture, structure and processes.

With regard to the above literature on technology, this study focused on information technology, which supported knowledge management initiatives in administration of the University of Zambia. The concentration was on information system architecture that supported knowledge creation and capture, information technology infrastructure that supported creation, communication and transfer and knowledge management application software that supported decision making.

2.2.6 Measurements

Measurement refers to organizations' knowledge management evaluation plan that identifies knowledge management enablers and how their interrelationships provide a valid assessment of their knowledge management value. Measurement enables organizations to track the progress of knowledge management and to determine its benefits and effectiveness. It is therefore important for an organization to have in place a measurement plan to regularly monitor, evaluate and assess the relationship between, cultural, structural, procedural and technological factors in knowledge management (Botha & Fouché, 2002). Grossman (2006) explained that knowledge management measurement programs could

improve the identification, mapping, monitoring and diffusion of intangible assets, knowledge flow patterns, social networks, critical knowledge issues and best practices in an organization.

Roth & Lee (2009) advance that measurement refers to the assessment methods of knowledge management and their relationships to organizational performance. Measurement of knowledge management initiatives require a number of strategies which may include assessing organizational performance, effective use of knowledge management tools, evidence based decision making through use of knowledge management applications reports, and alignment of knowledge management practices with organizational objectives, vision and strategy. This study sought to assess the measurements used by the University of Zambia administration of the knowledge management enablers of culture, structure, processes and technology and how they aligned with leadership.

2.3 CONCLUSION

This chapter outlined the literature review on knowledge management practices. The chapter started by providing extant literature on knowledge management, knowledge management practices and knowledge management in universities and in university administration before presenting literature on knowledge management enablers. The chapter further outlined and discussed the conceptual framework used by the study. The key concepts of the framework were discussed with support from previous studies which shared similar views or otherwise on the enablers of knowledge management. The literature also discussed how the variables of the conceptual framework are interrelated. The next chapter, Chapter Three, provides the methodology used by the study.

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

The previous chapter, Chapter Two, reviewed literature related to the study. It further presented the conceptual framework that guided this study and how it illuminates the study objectives.

This chapter presents the research methods used in the study. The chapter explains the research approach taken for the study and the research design used. Further, the role of the researcher has been explained clarifying the biases attached and how these were minimized. The chapter also discusses the data sources and selection procedures used for the study. The data instruments used are discussed in detail, giving justifications for their use. The verification process of the data collected and data analysis has is explained. The chapter ends with ethical issues considered during the study.

3.1 RESEARCH APPROACH

This study was conducted using both qualitative and quantitative research approaches. The use of both research approaches is known as mixed research (Creswell 2003; Johnson & Christensen, 2004). Mixed research method attempts to synchronize the insights of both quantitative and qualitative research into a workable solution (Johnson & Onwuegbuzie, 2004). This method takes a practical approach to help improve communication of researchers from different paradigms and find ways that the mixing of research approaches can offer the best opportunities in answering the research questions (Johnson & Onwuegbuzie, 2004; Maxcy, 2003). The mixed research approach was used because neither quantitative nor qualitative research is sufficient by themselves to capture the details of a situation. Qualitative and quantitative research methods, when used in combination complement each other and provide a more complete picture of the problem (Johnson & Turner, 2003; Tashakori & Teddlie, 2003).

The reason to use a mixed method research in this study was to maximise the strengths and minimize the weaknesses of both qualitative and quantitative research methods. Further, mixed methods research in the study was used with intent to seek convergence

and corroboration of results from different methods when studying the same phenomenon. A concurrent triangulation strategy was used. This is a strategy where, “the quantitative and the qualitative data collection is concurrent in one phase of the research study” (Creswell, 2003:217). By counteracting biases of the two methods, the results of these methods converge and corroborate one another to strengthen and enhance the validity of inquiry of findings (Greene et’ al., 1989; Mark & Shotland, 1987: Rossman & Wilson, 1985). The concurrent triangulation method was used because the interpretation of results can note the convergence as a way of strengthening the claims of the study or to explain the lack of convergence. This strategy was also used because it can result in what Crewell (2003:217) states as, “well-validated and substantiated findings”. The results of the two methods are integrated in Chapter Five: Interpretation and discussion of research findings.

3.2 RESEARCH DESIGN

A research design refers to the overall strategy to integrate different components of a study in a coherent and logical way, thereby, ensuring that the research problem has been addressed (Johnson & Christensen, 2004). A research design constitutes the outline for the collection, measurement, and analysis of data. There are a number of research designs, which include experiments, longitudinal design, cross-sectional design as well as case study.

Since understanding organizational environment on enablers of knowledge management practices is complex, a deep and thorough investigation was needed. This study therefore used a single case study design which Hancock (2002) explains that it facilitates “in-depth analysis” of the study case and offers a rich and depth of information on a case.

3.3 RESEARCHER’S ROLE

On the part of qualitative data collection, the researcher was typically involved in a sustained and intensive experience with the participants by holding interviews in their offices at their convenient time, and most of the interviews took longer than expected duration because the participants had enough information to divulge. They also found the interviews interesting. This is noted by Creswell (2003:184) that it introduces a range of strategic, ethical, and personal issues into the research process. The researcher brings knowledge to the study on administration because he works in administration at the research site, the University of Zambia. Due to experience in administration at the institution, this researcher may bring

certain biases to the study. Every effort was made to ensure objectivity, however, these biases may have shaped the way data was understood. To counter this, multiple strategies were used to validate the data collected. The validation strategies used included as discussed earlier; quantitative data was also collected through questionnaires; discrepant information that ran counter to the themes were also presented and peer debriefing was conducted.

To ensure that the researchers' position in the university did not violate the rights of participants, that no harm was administered to participants, their freedom to participate in the research was cleared by requesting the University Registrar to allow the researcher to carry out this research at UNZA and members of staff to be interviewed and participate in the survey. The letter of request to conduct the research at UNZA and the approval letter are attached as *Appendix IV* and *Appendix V*, respectively. The researcher also made an ethical application for the study to the University of Stellenbosch Research Ethics Committee (REC): Humanities and approval was granted. The Stellenbosch University REC approval is attached as *Appendix VI*. Further, based on the approval from the Stellenbosch University REC to seek authority from the institution to include the identity of the institution "The University of Zambia" in the title of the Thesis, authority was sought from the University Registrar and permission was granted. The letter of request to include the identity of the University in the Thesis and the approval letter are attached as *Appendix VII* and *Appendix VIII*, respectively.

3.4 DATA SOURCES AND SELECTION

The study population for this study were senior management staff, middle management staff and lower management staff who have administrative responsibilities at UNZA. Senior management staff were interviewed whilst data from middle management staff and lower management staff was collected through a survey.

3.4.1 Sampling Procedure

The study used two sampling methods namely; purposive sampling and random sampling.

For the interviews, purposive sampling was done on senior management staff deemed to have administrative and knowledge management roles. Purposive sampling is preferred in qualitative research because it helps the researcher purposively select participants who

have experienced the phenomenon of study and participants that will help the researcher understand the principles and research questions (Creswell, 2003). The reason to use purposive sampling was to select key informants deemed to have information on what the study was trying to address.

Random sampling was used to select participants from middle management and lower management to answer questionnaires in the survey. Random sampling is a system used to sample participants in which each individual has an equal chance of being included (Peil et' al, 1982:33).The list for sampling was collected from the Bursar's Unit in the Salaries department at UNZA. A table of random numbers was used and all the names were assigned a number and the numbers selected were included in the sample. The names of staff corresponding with the sampled numbers were therefore picked as the participants for the survey.

3.4.2 Study Sample

The University has 33 members of staff in the senior management team, 75 middle management staff and 57 lower management staff. The study population for the interviews was all senior management team and the study population for the survey were all middle management and lower management staff. The total number of the interviews' study population was therefore 33 and 132 for the survey.

Nine (9) members of senior management staff were purposively sampled to be interviewed. The selection of the nine (9) members of senior management was based on the expertise of the chosen members. The nine (9) members of senior management were chosen because they were experienced in administration and knowledge management roles. A few number of nine (9) were purposively chosen because the study used more than one method of enquiry into the phenomenon. This study used both quantitative and qualitative study where data was collected concurrently through questionnaires and interviews. The above justification for selecting nine (9) members of senior management for interviews are supported by Jette, Grover & Keck (2003) who suggest that expertise in the chosen topic can reduce the number of participants needed in a study. In addition, Lee, Woo & Mackenzie (2002) justify the selection of few participants if a study uses more than one method of data collection. Due to their expertise in administration and knowledge management responsibilities, the following members of senior management team were purposively selected to be interviewed:

(i) The University Librarian;
(ii) Dean, School of Education;
(iii) Dean, School of Medicine;
(iv) Director, Centre for Information and Communication Technologies;
(v) Director, Directorate of Research and Graduate Studies;
(vi) Deputy Registrar, Administration;
(vii) Deputy Registrar, Council;
(viii) Deputy Registrar, Academic Affairs; and
(ix) Chief Accountant, Schools and Units.

To determine the survey sample size of this study, some statistical factors were considered such as confidence level and margin of error. Confidence level describes how sure a researcher can be that their results are accurate, whereas the margin of error shows the range the survey results would fall between if the confidence level held true (Creswell, 2003). This study therefore had a confidence level of 95% and margin of error of 5%. The formula below for sample size, where; *Population Size = N; Margin of error = e; z-score = z; e is percentage, put into decimal form (for example, 5% = 0.05),* was used to calculate the sample size:

$$Sample\ Size = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1+(\frac{z^2 \times p(1-p)}{e^2 N})}$$

(https://www.surveymonkey.com/mp/sample-size-calculator/)

Using the above formula, considering the following: Population size = 132, Margin of error = 5%, z-score = 1.96 (at confidence level of 95%), the sample size for the study was 99. Therefore, 99 members of staff in the category of middle and lower management were identified using the random sampling technique to take part in the survey.

3.5 DATA COLLECTION

In order to enhance the validity of the study, data was collected using a mixed approach of qualitative and quantitative methods. The data was collected using a questionnaire and through interviews. All research questions were answered using both qualitative and quantitative methods.

3.5.1 Questionnaire

This research was guided by a survey instrument developed by Botha & Fouché (2002) namely; Knowledge Management Audit Instrument (KMAI). They developed the data collection instrument based on their Knowledge Management Reference Model (KMRM), which was a product of a comprehensive literature research study done on organizational knowledge management practices.

Their model was developed to provide a data collection and analysis instrument for an annual audit of knowledge management practices in the South African business sector. The model was realized after extensively studying extant subject literature, which revealed a consensus of six (6) core components of knowledge management business process. Botha & Fouché (2002:2) argue that, "an organization that has developed its processes and procedures of knowledge creation, sharing and application into a core competence displays a high degree of enabling organizational knowledge management environment factors of *knowledge leadership, organizational culture, structures, knowledge based processes and routines and technological infrastructure*".

The instrument consists of six (6) main factors, each dependent on three or more observable variables, counting as twenty four indicators. The core factor of the model is knowledge leadership, which aligns the interrelated factors of organizational culture, structure, knowledge-based processes and routines, technology and measurements of knowledge management practices (Botha & Fouché, 2002). A set of statements on knowledge management practices were formulated for each of the six (6) factors and each statement attempts to describe a knowledge management practice, employed by an excellent organization in pursuit of sustainable competitive advantage.

The questionnaire use a modified six intervals Likert ordinal scoring scale indicating progressive degrees in the state of implementation of knowledge management practices. The scores count from zero to five, where a score of five indicates the highest state of implementation of a knowledge management practice and zero the lowest. The relationship of the factors and the instrument were verified and validated by the use of statistical techniques of one-way analysis of variance, Chi-squared tests and Principal Component Analysis and through a pilot study of fifty-three organizations in South Africa (Botha & Fouché, 2002). The instrument was benchmarked against Skyrme's Knowledge

Assessment Tool (1999) and the Knowledge management assessment Tool of Arthur Andersen and the American Productivity & Quality Center (1995).

The KMAI was therefore tailored to a university context as not all the statements were compatible to the study. The tailored survey instrument rephrased some statements, replaced others and added other variables to be observed. The modified instrument is attached as *Appendix I.*

3.5.2 Interviews

In order to gain more insight and understanding of the research study, interviews were also used on participants in senior management with more knowledge intensive responsibilities. Face to face, structured open-ended interviews were used to ensure consistence in the data collected. Interviews were also used in order to get a better cooperation and detailed answers on the topic as championed by Peil et'al (1982). The interview guide was structured in line with the questionnaire as adapted from Botha's Knowledge Management Audit Instrument. This was so in order to yield an enriched, elaborated understanding of the problem and to seek enhancement, illustration and clarification of the results from the survey. The interview guide is attached as *Appendix II*.

The interviews were conducted side-by-side with the questionnaire survey. Interviews were conducted with senior management staff during the same period when questionnaire data was collected from middle and lower management staff. This was a mixed method research and data was collected using a concurrent triangulation strategy where data from the interviews was collected parallel to the questionnaire survey. This method was used to strengthen the findings of the study and to explain the lack of convergence of the results. As Creswell (2003) advances that concurrent triangulation strategy produces validated and substantiated results, so was the purpose of using interviews side-by-side with the questionnaire survey.

The interviews were recorded with prior consent from the interviewees. In addition to the recording, notes were made in a note book during the interview. An interview guide was used and followed. However, in some circumstances, follow up questions were asked in order to probe some interviewees for clarifications, as well as to gain more insights from them.

3.6 DATA ANALYSIS

Data was collected by the researcher both through interviews and through the survey. An interview guide was used for interviews and a questionnaire for the survey. Data collected was analysed by the researcher. Data collected through interviews was analysed manually by transcribing and indexing the data according to study objectives as themes. This is known as thematic extraction where data was grouped into themes and analysed by considering the most discussed areas by the majority of interviewees.

Data collected through the survey was subjected to descriptive statistical analysis using the Scientific Package for Social Sciences (SPSS) version 20.0. To aid interpretation of data, bar charts with frequencies were used. The presentation of the results are based on the conceptual framework as represented in the objectives and research questions, as well as the implications of the results in addressing the original overarching research question informing the study.

Further, for the purpose of this study, the scores on the six point modified questionnaire Likert scale were divided into two categories for ease of interpretation and discussion of results. The cumulative percentage scores from 3 (recently implemented) and above on the main indicators of the main factors were considered as UNZA administration was doing something about a particular Knowledge Management Practice, whilst cumulative percentage scores of 2 (considering implementation) and below denoted that UNZA administration was doing nothing about a particular Knowledge Management Practice.

3.7 VERIFICATION

Morse et'al (2002:2) points out that a research study without rigor is worthless, becomes fiction and loses its value. It is against this observation that all research should be verified for its reliability and validity. Morse et'al (2002:9) defines verification as, "a process of checking, confirming, making sure and being certain". They add that it refers to mechanisms used during the process of research to ensure reliability and validity. A number of leading qualitative researchers have argued that reliability and validity was only important to the quantitative paradigm and not relevant to qualitative enquiry (Altheide & Johnson, 1998). To the contrary, Guba & Lincoln (1981) propagated issues of reliability and validity in qualitative research where they also substituted the "reliability and validity" with "trustworthiness". In their concept of trustworthiness, they discussed four aspects of credibility, transferability,

dependability, and conformity. Within these concepts, they presented strategies to employ such as the audit trail, member checks when coding, categorizing, or confirming results with participants, peer debriefing, negative case analysis, structural corroboration, and referential material adequacy (Lincoln & Guba, 1985). The studies on reliability and validity by Guba and Lincoln brings to the fore that all research needs to be verified. This view is also shared by other scholars who argue that the broad and abstract concepts of reliability and validity can be applied to all research because the goal of finding plausible and credible outcome explanations is central to all research (Hermmersly, 1992; Kuzel & Engel, 2001, and Yin, 1994).

In view of the above discussion, verification process in this study was used in both quantitative and qualitative data collection. The verification was done within the process of inquiry and after the data collection as well. The verification mechanisms used were methodological coherence, sampling sufficiency, collecting and analysing data concurrently, discrepant information that ran counter to the themes were also presented, peer debriefing and use of uniform interview guide and questionnaire. During methodological coherence, the researcher ensured that the research question and the research approach used were congruent. This was done by using a mixed methods research approach where concurrent triangulation strategy was used. Data was collected concurrently in one phase of the research. This was so in order to strengthen the findings of the study or to explain the lack of convergence of results. Creswell (2003) supports this strategy because it produces well validated and substantiated findings.

Sampling sufficiency was used as a verification process within the enquiry process. Two sampling procedures were used to select participants in the study. The sampling for the quantitative data was random sampling of a representative sample from middle and lower management whose roles were administrative in nature. Purposive sampling was used for qualitative data collection because the research identified members from senior management staff who had experienced the phenomenon under study. This ensured that the sample for the research was appropriate, as Morse et' al (2002) advances that a sample should consist of participants who best represent or have knowledge of the research topic. They add that, "this ensures efficient and effective saturation of categories, with optimal quality data and minimum dross" (Morse et' al., 2002:12).

The researcher also collected and analysed data concurrently in order to have a mutual interaction between what was known and what needed to be known. The pacing and the repetitive interaction between data and analysis is termed by Morse et' al (2002) as the essence of attaining reliability and validity. To strengthen reliability, discrepant results that ran counter to the research themes have also been presented in findings. Peer debriefing was another strategy that was used in in the verification process. An independent person was used to review and ask the questions about the study. The reliability was also ensured by an interview guide, which provided for same pattern of questions. The survey questionnaire used also had the same questions.

3.8 ETHICAL CONSIDERATIONS

Cohen et' al., (2007) asserts that any researcher has the prospect to bear upon the lives of others, and therefore ample attention must be given to the integrity with which a research study is conducted and its impact on people. Neuman (2000) further points out that a researcher must never coerce anyone into participating. In observing this, a researcher must at all times ensure that research embarked on, meets the conduct of ethically informed social research which should be completed before the start of data production. The researcher therefore ensured quality and integrity of the study by seeking informed consent from participants before interviewing them and before administering the questionnaire survey. The informed consent form used has been attached as *Appendix III*. All the data collected were treated with utmost confidentiality and the identity of respondents of the questionnaire survey were treated anonymous as names were not required to be included in the data collection instrument. The researcher also ensured that interviews took place at venues away from the public eye and that unnecessary disturbances did not occur. Furthermore, sampled participants had a voluntary option on whether to take part in the research project or not. This was clearly indicated in the informed consent form which participants were requested to sign.

The interview guide and the survey questionnaire indicated the benefits of the research as an assessment of the University of Zambia administration to effectively manage knowledge resources. Participant privacy and confidentiality were adhered to by non-disclosure of participants' names in the interviews and the survey. On the part of interviews, interviewees were assigned numbers in the sequence the interviews were conducted. The numbers were assigned to the interviewees for ease of reporting of responses they provided as well as to

maintain confidentiality of reports on findings. The numbers assigned were done by the researcher and the interviewees were not aware of the numbers. In addition, the matching of numbers to participants are not presented in the report in order to protect the identity of the interviewees. The responses provided are therefore reported anonymously, with only secret numbers attached to each interviewee, in order to show that responses came from different interviewees. The data collected was protected from unauthorized access.

3.9 CONCLUSION

This chapter presented the methodology used in conducting the study. The chapter described in detail the paradigm used, the research approach, the data sources, the data collection methods, data verification process, how data was analysed and the ethical considerations. The next chapter, Chapter Four, presents findings of the study from both the survey and interviews.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.0 INTRODUCTION

The previous chapter discussed the methodology used for the study. It laid out the qualitative and quantitative designs and the methods used, the role played by the researcher, the data sources used, sampling procedure and the process of data collection. The chapter further described the data analysis used in the study, the verification of the data and ethical considerations observed.

This chapter presents the findings of the study. The first section presents the findings from the survey questionnaire (*Appendix I on page 155*) and the second section presents the findings from the interviews guided by the interview guide (*Appendix II on page 165*). Data was collected based on the study objectives as presented in chapter one.

4.1 PRESENTATION OF FINDINGS

The findings for the study are presented based on the objectives in chapter one. The findings are presented in order to answer the research questions of the study. Some of the research questions were answered by the questionnaire survey only, whilst other research questions were answered by the interviews only and some questions were answered by both the questionnaire survey and the interviews. The findings from both the survey and interviews are presented as collected and analysed with brief insight of analysis. Detailed interpretations and discussions of findings are presented in chapter five where both findings from the survey and interviews are integrated. Empirical data for both the survey and the interviews was collected from November 2016 to March 2017.

4.1.1 FINDINGS FROM THE SURVEY

The section presents findings from the questionnaire survey conducted among middle and lower management staff who comprised of Heads of Department, Managers, Assistant Registrars, and Accountants. The questionnaire addressed all the research objectives and had seven sections namely, personal details, leadership, culture, structure, processes, technology and measures. The questionnaire was distributed to 99 participants and only 75

responded to the survey. This resulted into 75.76% response rate. The findings of the survey are presented using bar charts as figures. The numbering of figures is in relation to the numbering of questions/statements in the questionnaire. The number of the figure is a reflection of the question/statement number in the questionnaire. For example, figure 2.1 represents findings for statement 2.1 in the questionnaire (*Appendix I on page 155*).The statistics of the respondents are as shown below:

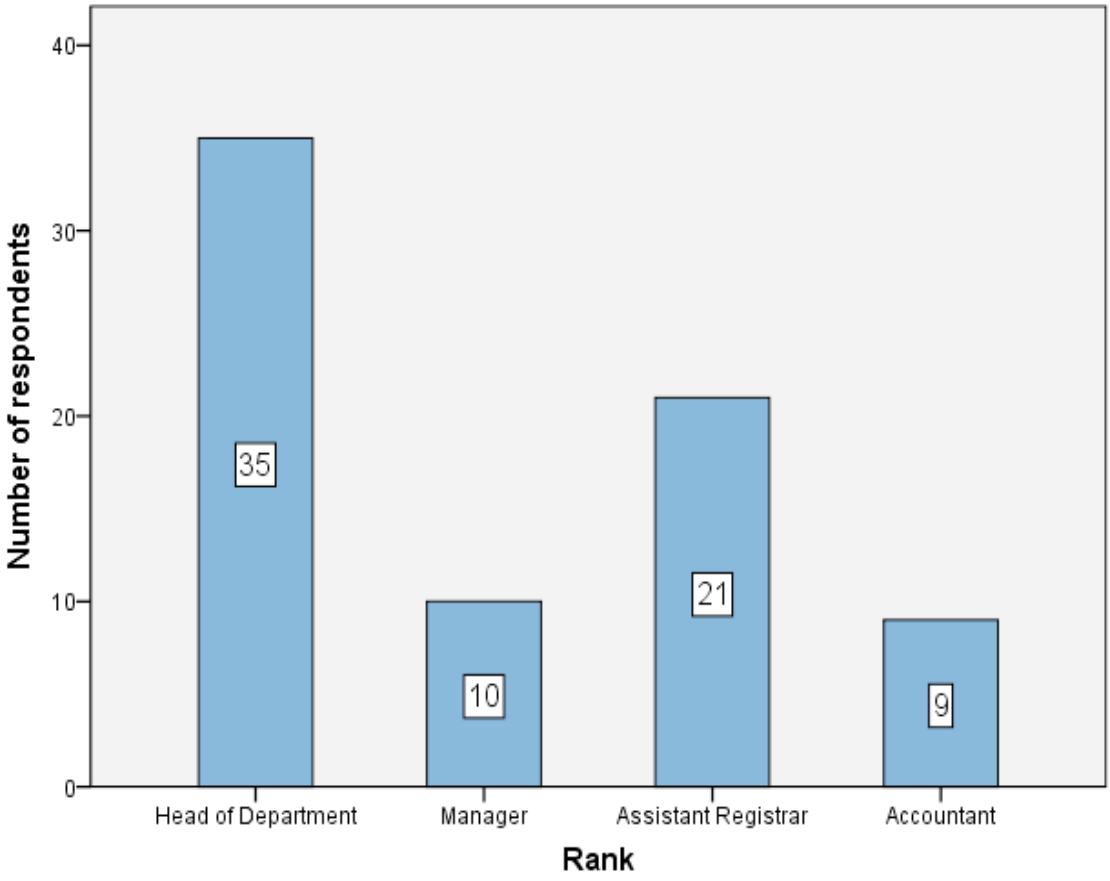
4.1.1.1 CHARACTERISTICS OF RESPONDENTS

The researcher was interested to know the respondents' rank, highest qualification, age group, gender and duration worked in higher education administration.

4.1.1.1.1 Rank of respondents

Out of the 75 participants who responded to the questionnaire, thirty-five (46.7%) were Heads of Department, ten (13.3%) were Managers, twenty-one (28.0%) were Assistant Registrars and nine (13.0%) were Accountants. Figure 1.1 below presents a summary of ranks of respondents.

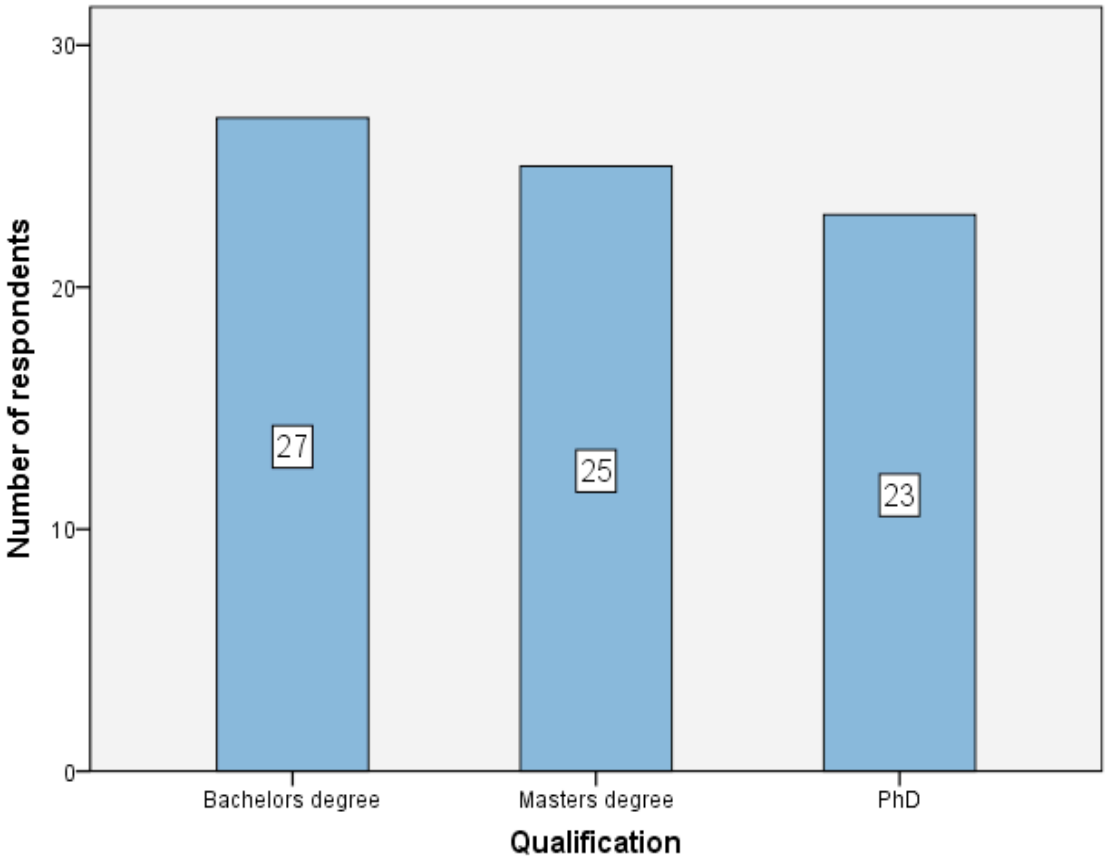
Figure 1.1: Rank of respondent



4.1.1.1.2 Highest qualification of respondents

With regard to highest qualifications of respondents, twenty-seven (36.0%) had bachelor's degree, twenty-five (33.3%) had master's degree and twenty-three (30.7%) had PhD. Figure 1.2 below presents a summary of respondents' highest qualifications:

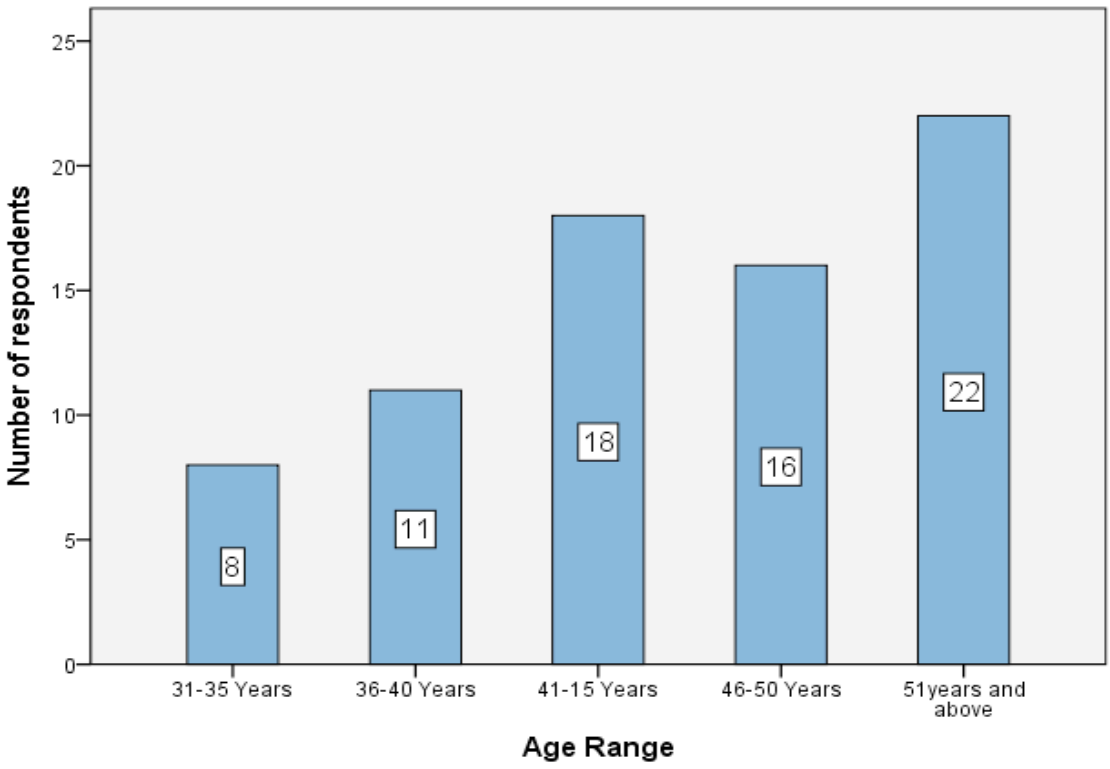
Figure 1.2: Respondents' Highest qualification



4.1.1.1.3 Age group of respondents

The age group for respondents was distributed as follows: eight (10.7%) were between 31-35 years, eleven (14.7%) were between 36-40 years, eighteen (24.0%) were between 41-45 years, sixteen (21.3%) were between 46-50 years and twenty-two (29.3%) were 51 years and above. Figure 1.3 below presents a summary of age groups of respondents:

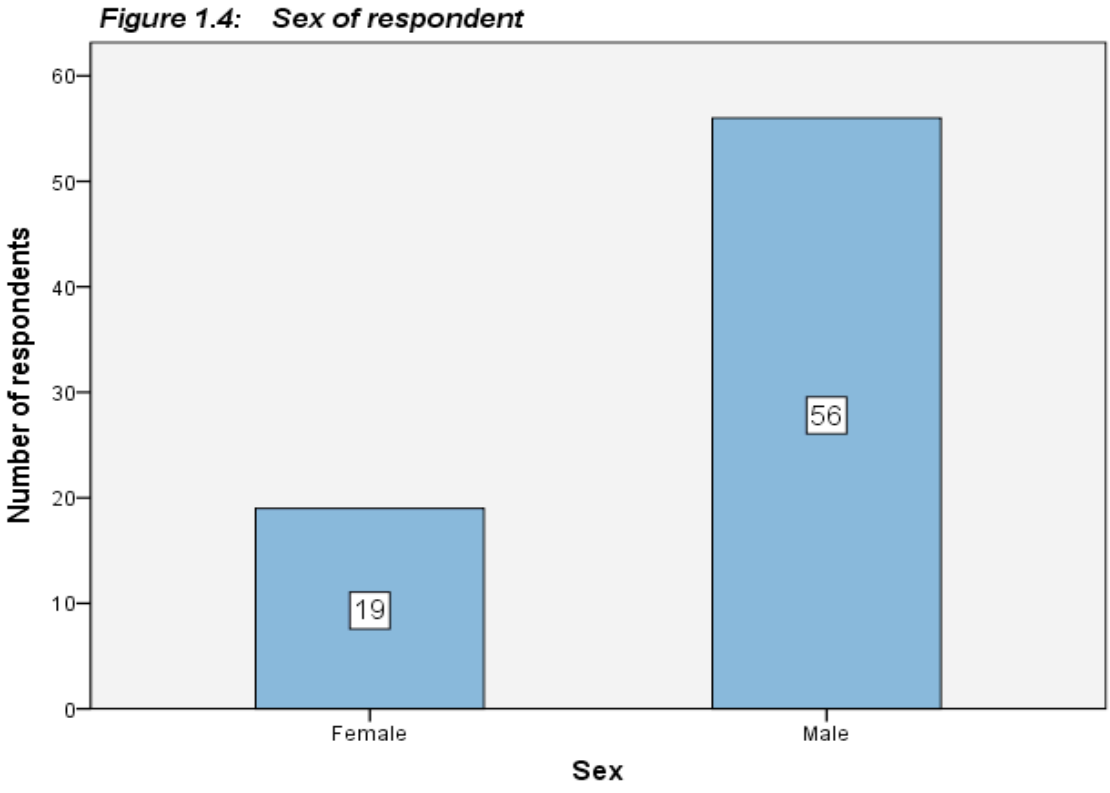
Figure 1.3: Age range of respondents



4.1.1.1.4 Gender of respondents

In terms of gender, nineteen (25.3%) were female and fifty-six (74.7%) were male. Figure 1.4 below presents a summary of gender of respondents.

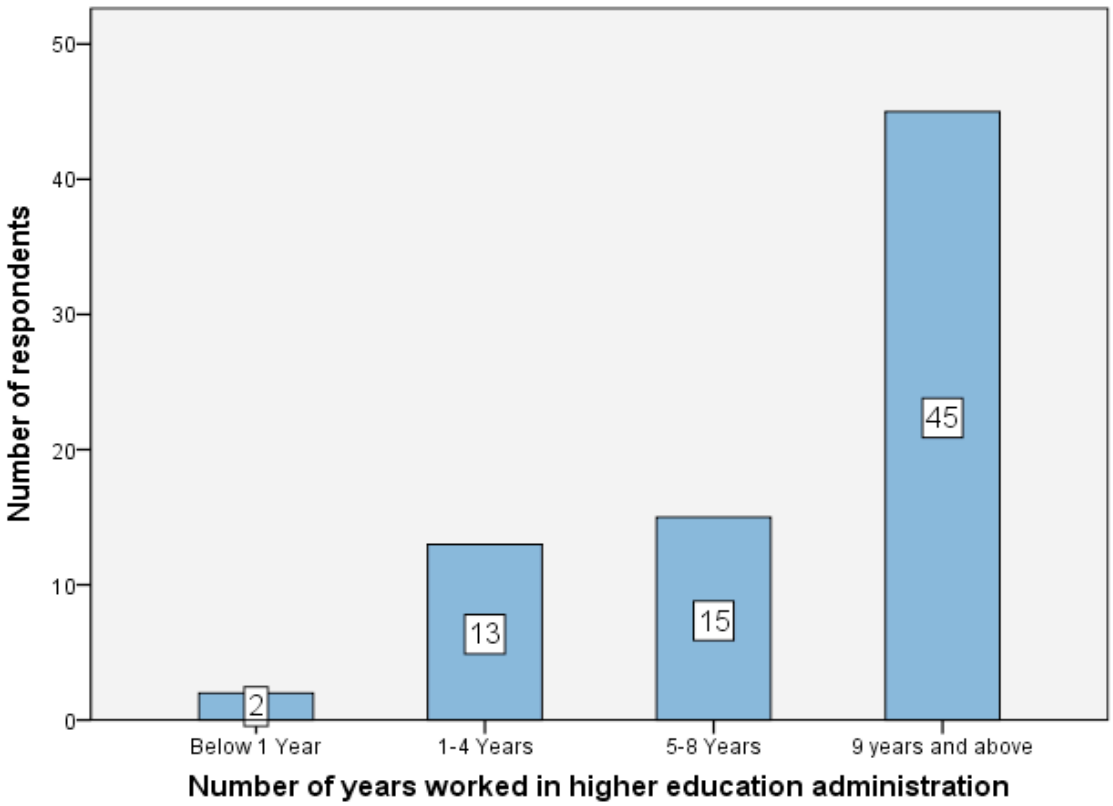
Figure 1.4: Sex of respondent



4.1.1.1.5 Number of Years in Higher Education Administration

Figure 1.5 below presents a summary of the number of years in higher education administration served by the respondents. The figure show that two (2.7%) had served for less than one year, thirteen (17.3%) had served between 1-4 years, fifteen (20.0%) had served between 5-8 years and forty-five (60%) had served more than nine years:

Figure 1.5: Number of years worked in higher education administration



4.1.1.2 LEADERSHIP

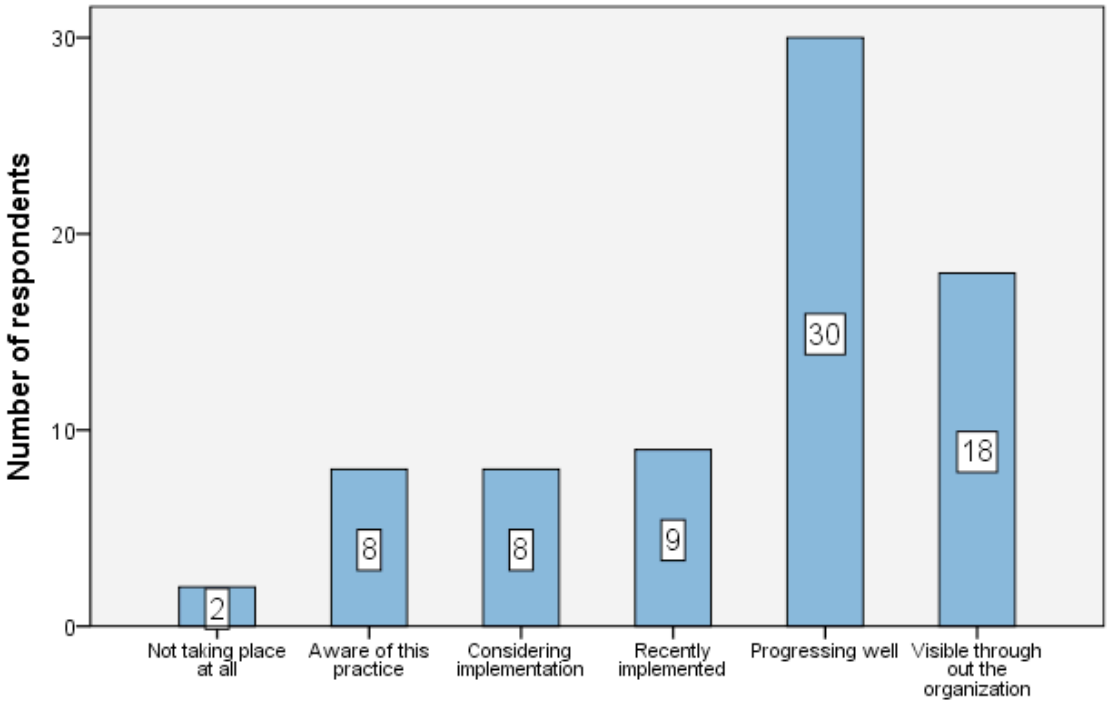
This section aimed at assessing leadership involvement in knowledge management in administration at UNZA. Statements on availability and shared vision, strategy implementation and organizational learning were asked to be scored on a Likert scale of between 0 and 5. A lowest score a statement representing that the university leadership was not doing anything on knowledge management and a highest score representing that something was being done by university leadership.

4.1.1.2.1 Vision

On vision, a statement was made if UNZA had a vision on the critical importance of knowledge for the achievement of its objectives and that, the vision was clearly articulated and mutually shared by all members. The results show that out of seventy-

five (75) respondents, two (2.7%) revealed that it was not taking place at all, eight (10.7%) were aware of the practice, eight (10.7%) revealed considering implementation, nine (12.0%) indicated that it was recently implemented, thirty (40.0%) revealed that it was progressing well and eighteen (24.0%) revealed that it was visible throughout the organization. Figure 2.1 below is a summary of views on the University's vision:

Figure 2.1: Vision



UNZA has a vision on the critical importance of knowledge for the achievement of its objectives. This is clearly articulated and mutually shared by all members

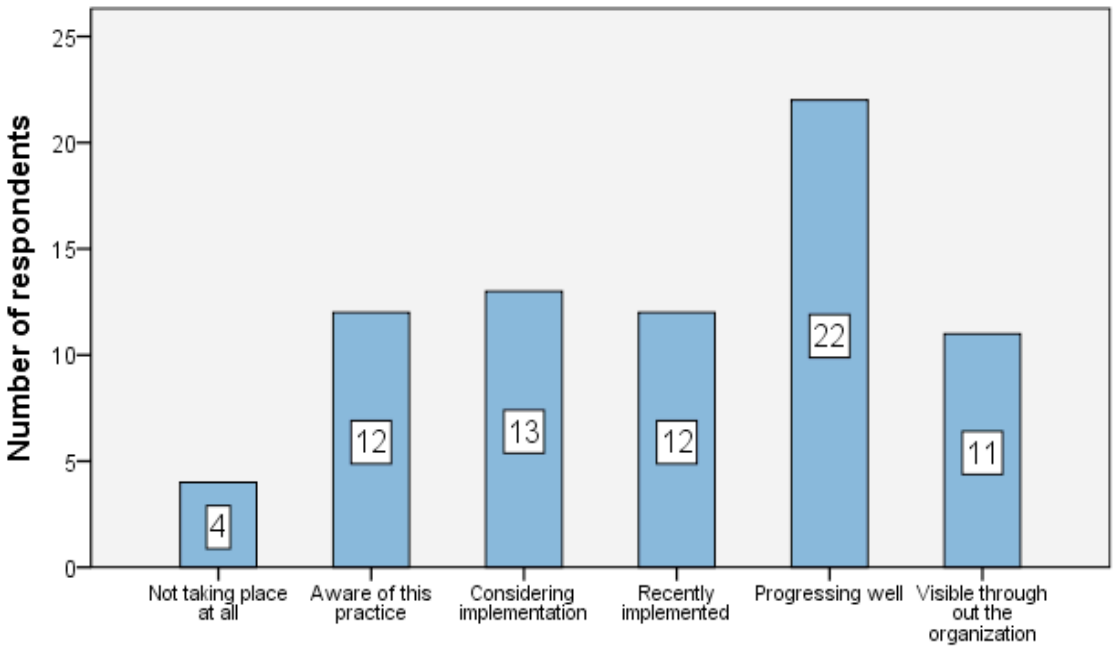
The results above revealed that the majority of respondents indicated higher scores from 3 (recently implemented) and above. This indicates that UNZA had a vision on the critical importance of knowledge for achievement of its objectives.

4.1.1.2.2 Strategy

On strategy, a statement was posed to find out if UNZA had implemented a strategy to create and apply knowledge that aligns with the operational objectives of enhancing administrative decision making and performance and that the knowledge strategy had been clearly and purposefully communicated to all levels. The results show that out of seventy-four (74) respondents, four (5.3%) revealed that it was not taking place at all, twelve (16.0%) were aware of the practice, thirteen (17.3%) indicated that it was being considered for implementation, twelve (16.0%) revealed that it was recently

implemented, twenty-two (29.3%) revealed that it was progressing well, eleven (14.7%) revealed that it was visible throughout the organization and one (1.3%) did not respond to the question. A summary of results on strategy is shown in figure 2.2 below:

Figure 2.2: Strategy



UNZA has implemented a strategy to create and apply knowledge that aligns with the operational objectives of enhancing administrative decision making and performance. This knowledge strategy has been clearly and purposefully communicated to all levels.

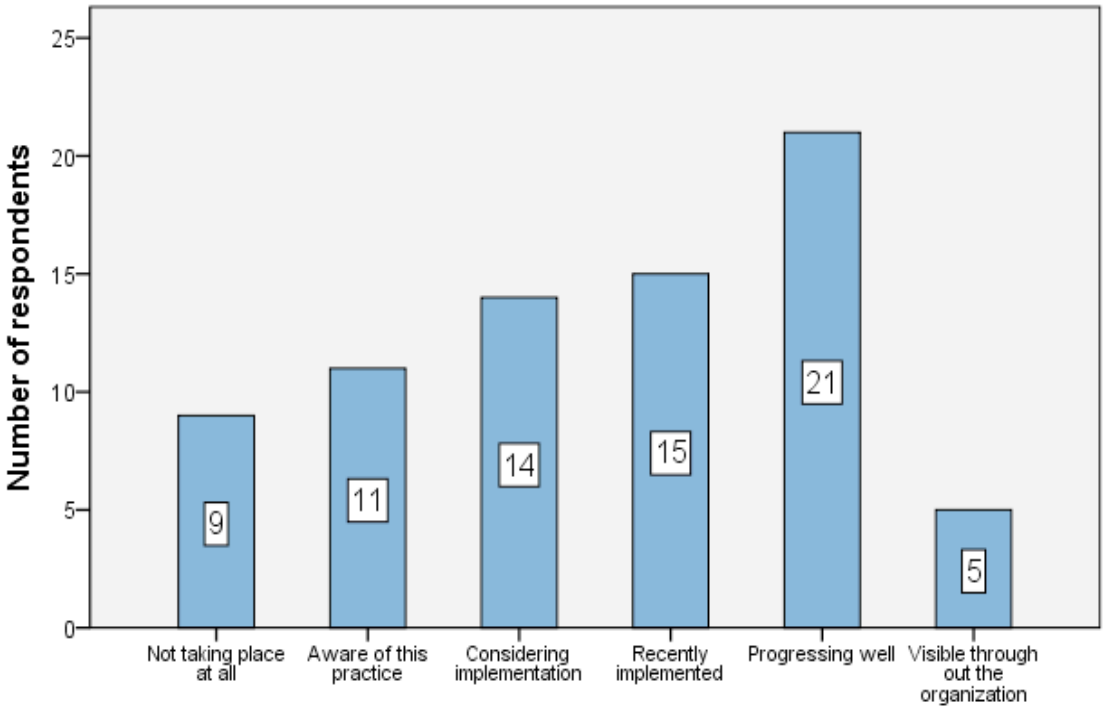
The above results revealed that the majority of respondents indicated higher scores from 3 (recently implemented) and above. This indicates that UNZA's leadership was doing something about a strategy on knowledge management.

4.1.1.2.3 Organizational Learning

To assess organizational learning, a statement was posed to find out if learning objectives with respect to knowledge gained from adapting to Higher Education Authority requirements as well as student needs were jointly set and actively pursued by administrative departments. Figure 2.3 below show that out of seventy-five (75) respondents, nine (12.0%) indicated that it was not taking place at all, eleven (14.7%) were aware of the practice, fourteen (18.7%) revealed that it was being considered for implementation, fifteen (20.0%) indicated that it was recently implemented, twenty-one

(28.0%) revealed that it was progressing well and five (6.7%) revealed that it was visible throughout the organization:

Figure 2.3: Organizational Learning



Learning objectives with respect to knowledge gained from adapting to Higher Education Authority requirements as well as student needs are jointly set and actively pursued by administrative departments.

The results above reveal that the majority of respondents indicated higher scores from 3 (recently implemented) and above, with most of them indicating 4 (progressing well). This indicates that UNZA's leadership was doing something about organizational learning.

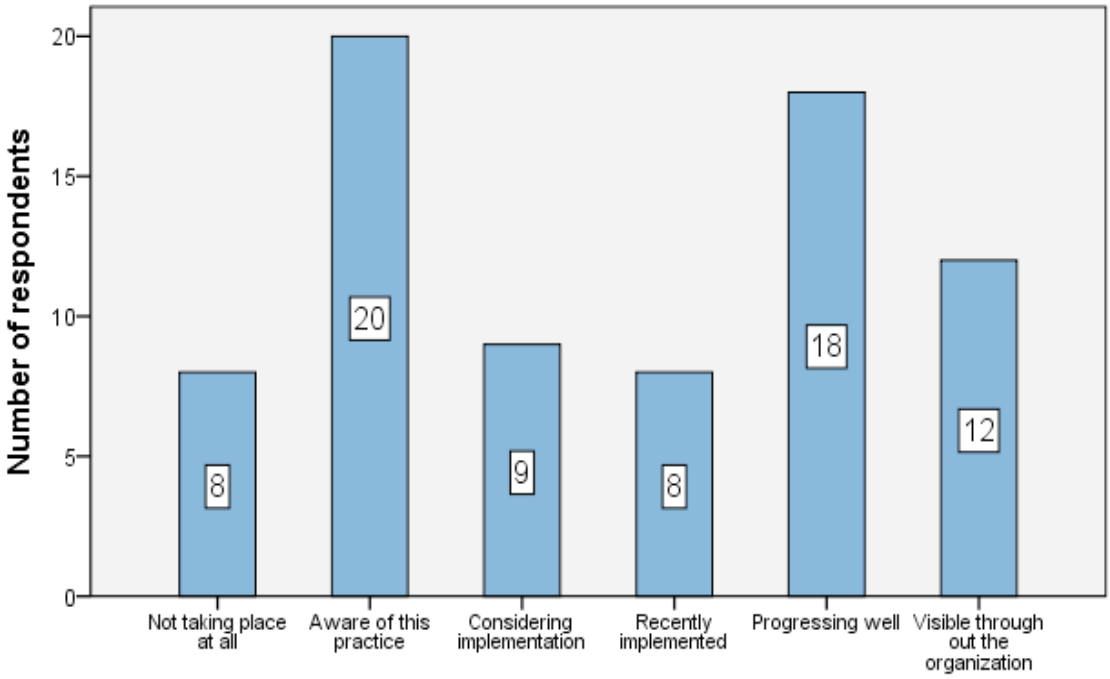
4.1.1.3 CULTURE

This section aimed at exploring UNZA's administrative organizational culture in knowledge management. Statements on knowledge communication, collaboration, workplace, knowledge sharing and knowledge contribution were developed and asked to be scored on a Likert scale of between 0 and 5. A lowest score on a statement indicating that the culture was not conducive for knowledge management practices and a highest score representing a conducive culture for knowledge management practices in administration.

4.1.1.3.1 Communication

In order to ascertain UNZA's knowledge communication in administration, a statement was made on whether UNZA had an intense, open, widespread and free flowing knowledge and information communication in administration and across organizational boundaries, which was underscored by mutual trust, understanding and respect. The results show that out of seventy-five (75) respondents, eight (10.7%) revealed that it was not taking place at all, twenty (26.7%) were aware of the practice, nine (12.0%) revealed that it was being considered for implementation, eight (10.7%) indicated that it was recently implemented, eighteen (24.0%) revealed that it was progressing well and twelve (16.0%) indicated that it was visible throughout the organization. Figure 3.1 below presents a summary of views on knowledge communication in administration at UNZA:

Figure 3.1: Communication



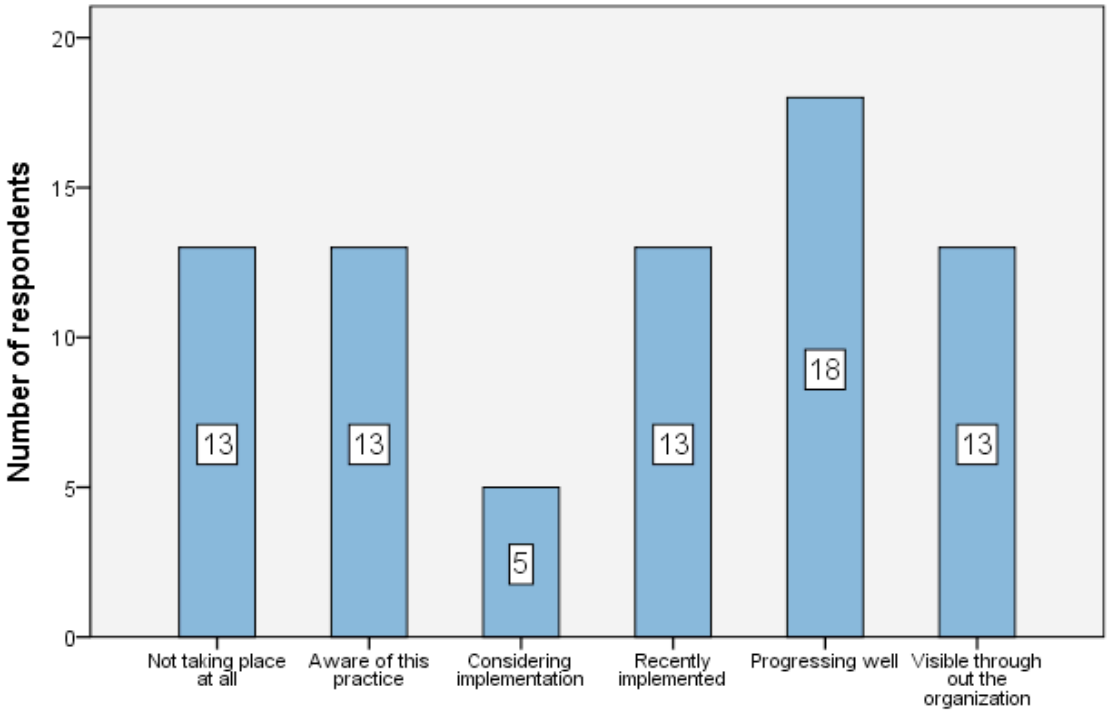
UNZA has an intense, open, widespread and free flowing knowledge and information communication in administration and across organizational boundaries which is underscored by mutual trust, understanding and respect

The results above revealed that the majority of respondents indicated higher scores from 3 (recently implemented) and above. This shows that UNZA's administrative culture was conducive for information communication in administration.

4.1.1.3.2 Collaboration

On collaboration, a statement was asked if collaborative relationships existed in forms of alliances and partnerships among units and departments for the purpose of joint knowledge development, innovation and knowledge sharing. Figure 3.2 below shows that out of seventy-five (75) respondents, thirteen (17.3%) indicated that the practice was not taking place at all, thirteen (17.3%) were aware of the practice, five (6.7%) indicated that it was being considered for implementation, thirteen (17.3%) revealed that it was recently implemented, eighteen (24.0%) responded that it was progressing well and thirteen (17.3%) revealed that it was visible throughout the organization:

Figure 3.2: Collaboration



Collaborative relationships exist in forms of alliances and partnerships among units and departments for the purpose of joint knowledge development, innovation and knowledge sharing.

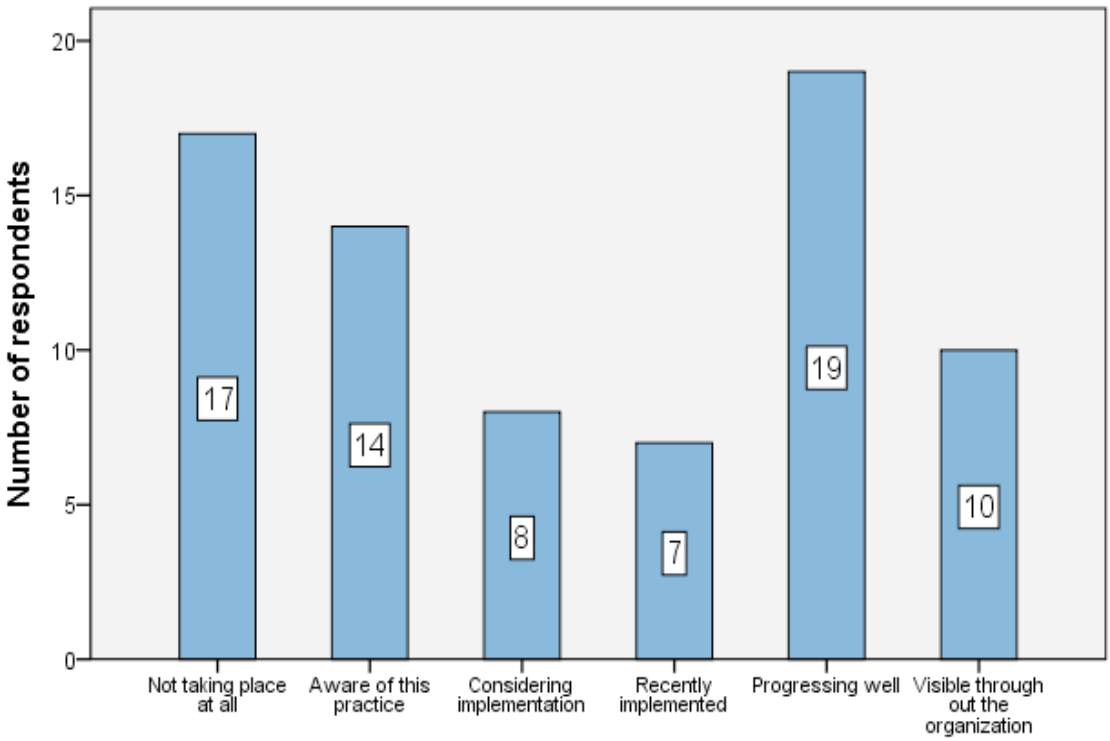
The results above reveal that the majority of respondents indicated higher scores from 3 (recently implemented) and above. This shows that UNZA administrative culture was conducive for collaborative relationships for knowledge management.

4.1.1.3.3 Workplace

To assess workplace culture, a statement was devised to find out if a practice of knowledge sharing and information exchange was promoted in administration by management support and encouragement by physical work environment. The results

shows that out seventy-five (75) respondents, seventeen (22.7%) indicated that the practice was not taking place at all, fourteen (18.7%) were aware of the practice, eight (10.7%) revealed that the practice was being considered for implementation, seven (9.3%) responded that it was recently implemented, nineteen (25.3%) revealed that it was progressing well and ten (13.3%) indicated that it was visible throughout the organization. Figure 3.3 below presents a summary of views on workplace culture:

Figure 3.3: Workplace



Knowledge sharing and information exchange is promoted in administration by management support and encouragement through the use of physical work environment (open areas, co-located offices and informal meeting places)

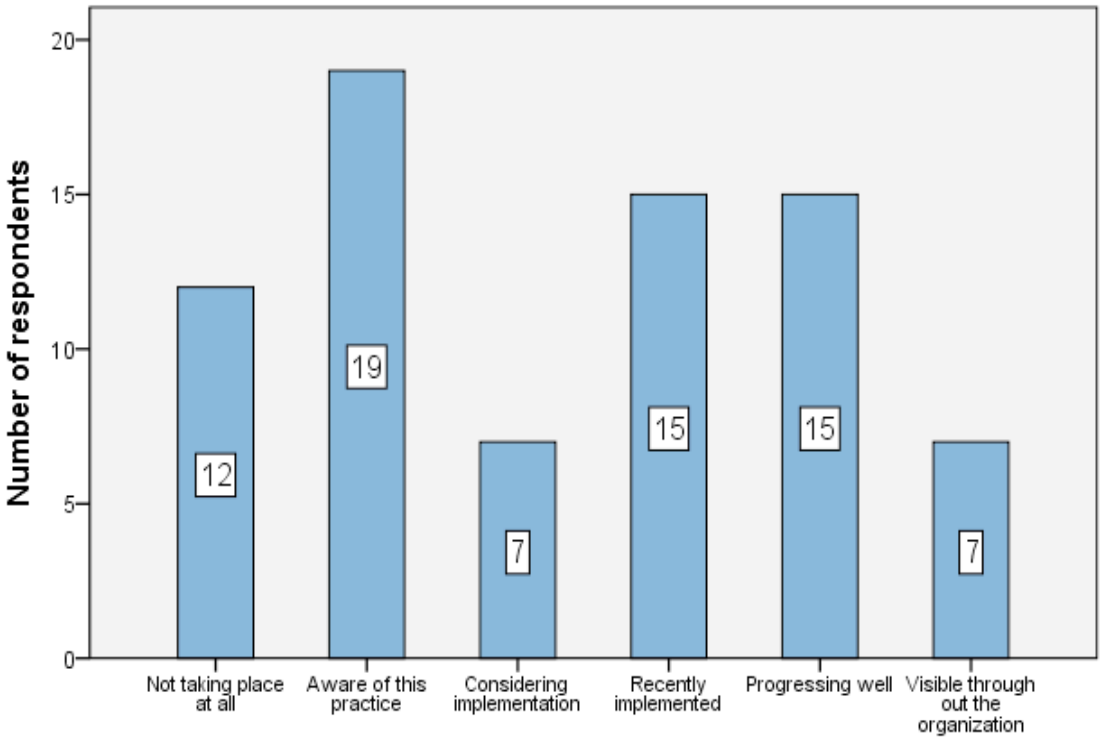
The results above show that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that UNZA's administrative culture was not conducive in promoting knowledge sharing and information exchange in administration through the use of physical work environment.

4.1.1.3.4 Knowledge Sharing

To ascertain knowledge sharing in administration at UNZA, respondents were requested to assess if a practice of natural awareness of mutual benefits of sharing knowledge was instilled in all administrative staff and had become a way of life and if management recognized knowledge sharing and knowledge creation efforts and had firmly discouraged knowledge and information hoarding. The findings reveal that out of

seventy-five (75) respondents, twelve (16.0%) indicated that the practice was not taking place at all, nineteen (25.3%) were aware of the practice, seven (9.3%) revealed that it was being considered for implementation, fifteen (20.0%) answered that the practice was recently implemented, fifteen (20.0%) indicated that it was progressing well and seven (9.3%) revealed that the practice was visible throughout the organization. Figure 3.4 below presents a summary of views on knowledge sharing in administration at UNZA:

Figure 3.4: Knowledge Sharing



A natural awareness of mutual benefits of sharing knowledge is instilled in all administrative staff and has become a way of life. Management recognizes knowledge sharing and knowledge creation efforts and firmly discourages knowledge and information hoarding.

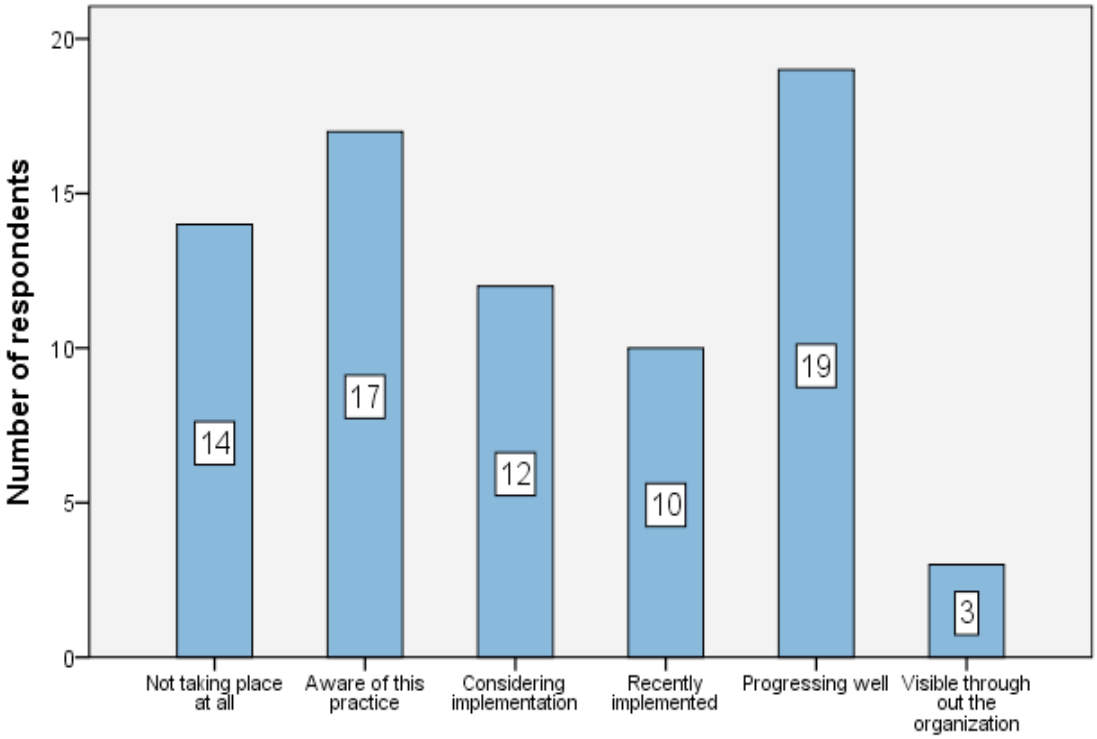
The results above show that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that UNZA's administrative culture was not conducive for knowledge sharing.

4.1.1.3.5 Knowledge Contribution

A statement on a practice of knowledge contribution was asked if a culture of voluntary contribution to UNZA's knowledge base was widely entrenched among all administrative members, teams and groups and if utilization of the knowledge-base was well engrained as standard operating procedure. The findings revealed that out

seventy-five (75) respondents, fourteen (18.7%) indicated that the practice was not taking place at all, seventeen (22.7%) were aware of the practice, twelve (16.0%) indicated that the practice was being considered for implementation, ten (13.3%) revealed that it was recently implemented, nineteen (25.3%) revealed that it was progressing well and three (4.0%) indicated that it was visible throughout the organization. Figure 3.5 below presents a summary of views on knowledge contribution in administration at UNZA:

Figure 3.5: Knowledge Contribution



A culture of voluntary contribution to UNZA's knowledge base is widely entrenched among all administrative members, teams and groups. Utilization of the knowledge-base is also well engrained as standard operating procedure.

The above results shows that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that UNZA's administration culture was not conducive for voluntary knowledge contribution to UNZA's knowledge base.

4.1.1.4 STRUCTURE

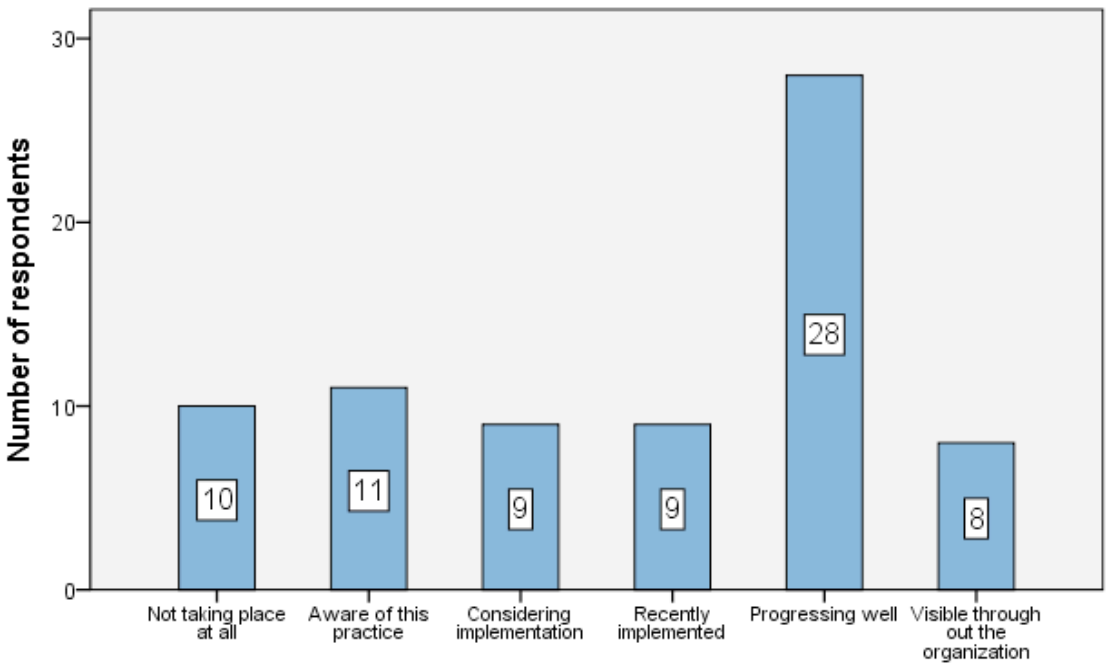
This section aimed at examining UNZA's administrative organizational structure with regard to knowledge management practices of knowledge creation, knowledge acquisition, knowledge transfer and knowledge sharing. Statements on communities of practice (teams and groups), knowledge management roles, management

communication, incentive systems and external structure were asked to be scored on a Likert scale of between 0 and 5. A lowest score on a statement representing that the administrative organizational structure was not promoting knowledge management practices and a highest score representing a positive contribution to knowledge management practices in administration.

4.1.1.4.1 Teams and Groups (Communities of Practice)

To ascertain communities of practice, respondents were requested to score the statement that management and administrative staff were appointed into project teams, committees or workgroups with multi-disciplinary and cross-functional members in order to exploit all embodied knowledge. The findings revealed that out of seventy-five (75) respondents, ten (13.3%) indicated that the practice was not taking place at all, eleven (14.7%) were aware of the practice, nine (12.0%) indicated that the practice was being considered for implementation, nine (12.0%) revealed that the practice was recently implemented, twenty-eight (37.3%) indicated that the practice was progressing well, and eight (10.7%) revealed that the practice was visible throughout the organization. Figure 4.1 below presents a summary of views on communities of practice:

Figure 4.1: Teams and Groups



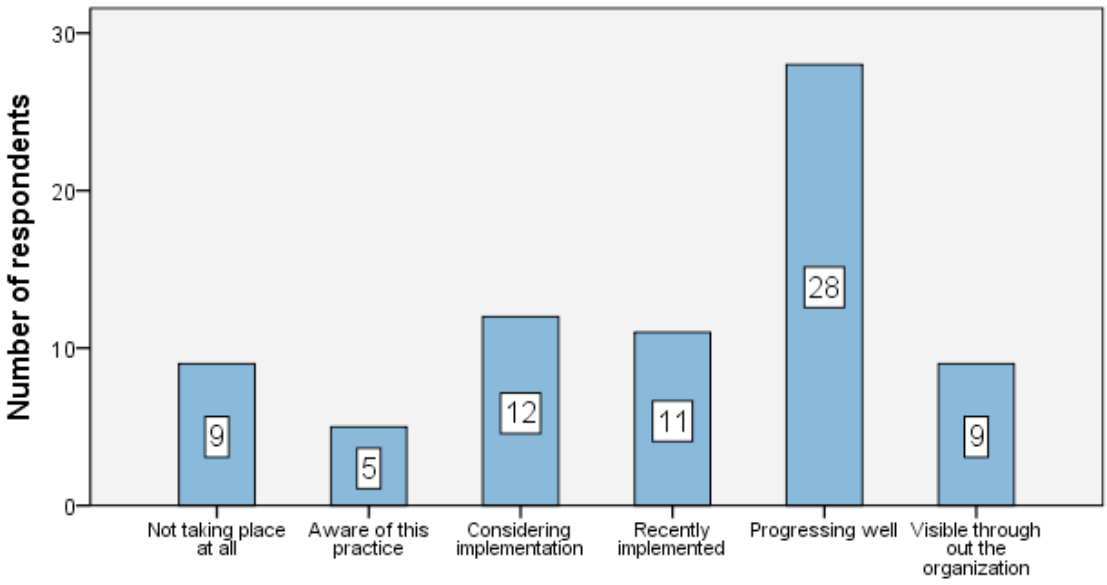
Management and administrative staff are appointed into project teams, committees or workgroups with multi-disciplinary and cross-functional members in order to exploit all embodied knowledge.

The results above show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's administrative structure was promoting knowledge exploitation through communities of practice.

4.1.1.4.2 Knowledge Management Roles

To find out the existence of knowledge management roles in management and administration, a statement was developed for scoring on whether specific knowledge management roles in management and administration were defined, appointments made and responsibilities allocated. Further enquiry was on whether employees in the appointed positions accepted responsibility to promote knowledge management awareness throughout the university. The findings showed that out of seventy-four (74) respondents, nine (12.0%) noted that the practice was not taking place at all, five (6.7%) were aware of the practice, twelve (16.0%) informed that the practice was being considered for implementation, eleven (14.7%) indicated that the practice was recently implemented, twenty-eight (37.3%) revealed that it was progressing well, nine (12.0%) indicated that it was visible throughout the organization and one (1.3%) did not respond. Figure 4.2 below presents a summary of views on knowledge management roles in administration at UNZA:

Figure 4.2: Knowledge Management Roles



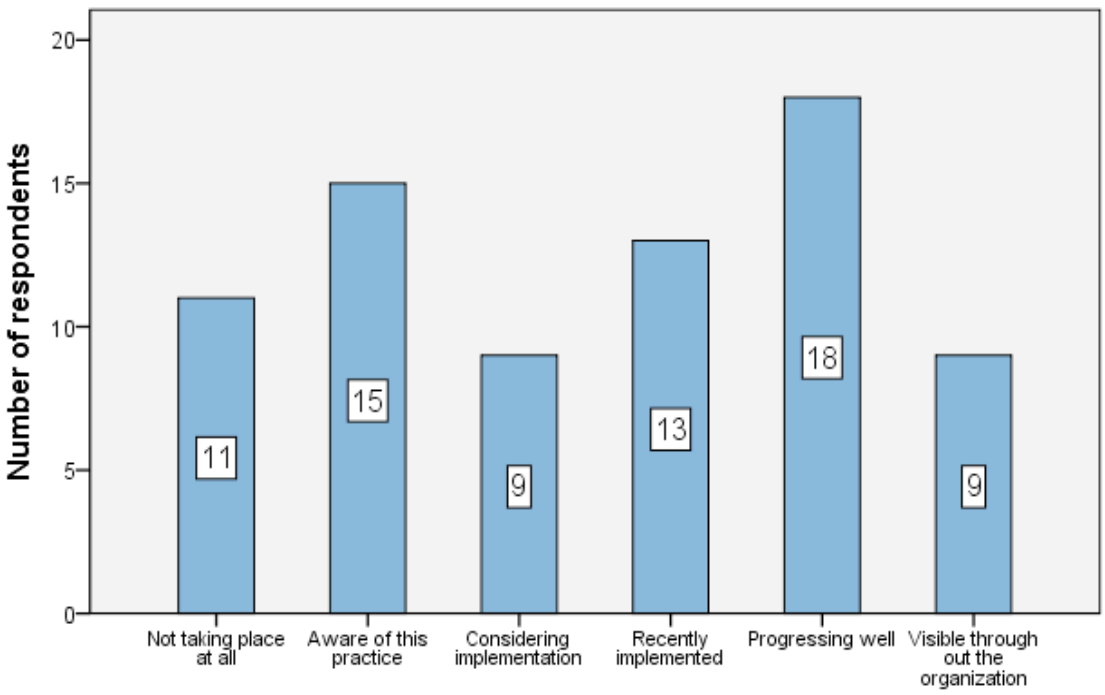
Specific knowledge management roles in management and administration are defined, appointments made and responsibilities allocated. Employees in the appointed positions accept responsibility to promote knowledge management awareness throughout the organiz

The above results show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's administrative structure was promoting knowledge management through defining knowledge management roles for employees.

4.1.1.4.3 Management Communication

To ascertain the practice of management communication, respondents were requested to score the statement that knowledge and knowledge management were regular agenda points for the formal and informal two-way communication sessions held between management and administrative staff. The findings showed that out of seventy-five (75) respondents, eleven (14.7%) indicated that the practice was not taking place at all, fifteen (20.0%) were aware of the practice, nine (12.0%) revealed that it was being considered for implementation, thirteen (17.3%) revealed that it was recently implemented, eighteen (24.0%) indicated that the practice was progressing well and nine (12.0%) revealed that the practice was visible throughout the organization. Figure 4.3 below presents a summary of views on the practice of management communication:

Figure 4.3: Management Communication



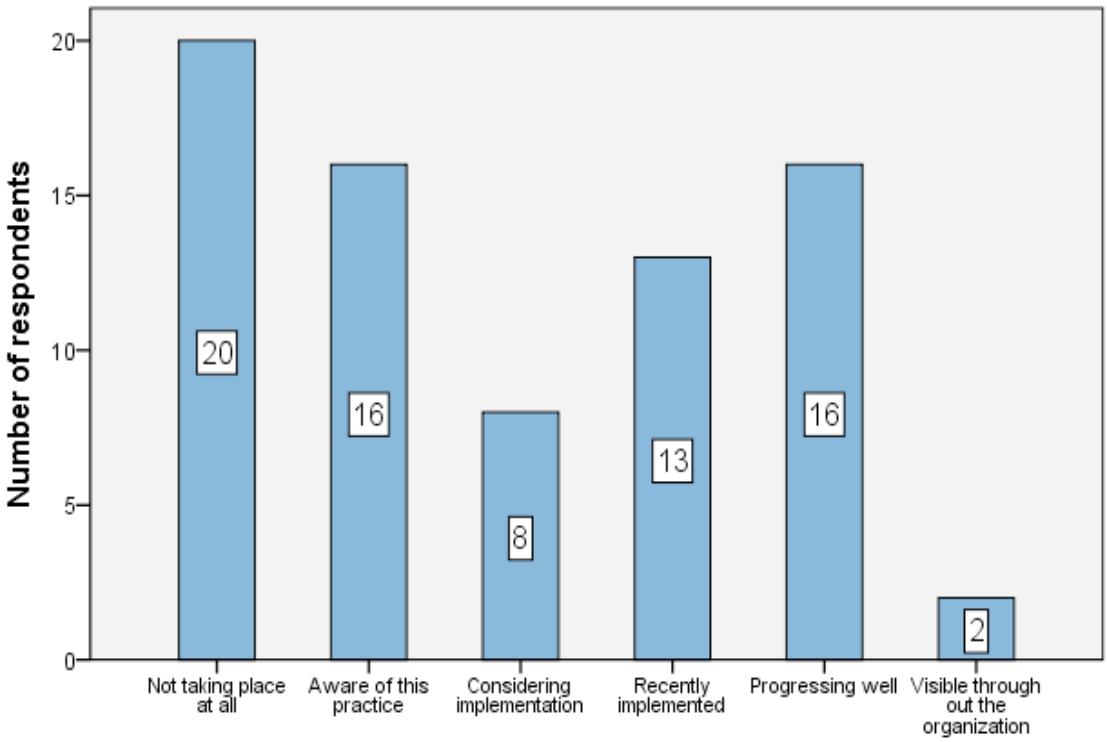
Knowledge and knowledge management are regular agenda points for the formal and informal two-way communication sessions held between management and administrative staff.

The results above show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's administrative structure was promoting knowledge management through management communication on knowledge and knowledge management.

4.1.1.4.4 Incentive Systems

On establishing if there was a practice of institutionalized incentive systems to sustain UNZA's knowledge base and how they were applied, the findings revealed that out of seventy-five (75) respondents, twenty (26.7%) indicated that the practice was not taking place at all, sixteen (21.3%) were aware of the practice, eight (10.7%) indicated that it was being considered for implementation, thirteen (17.3%) indicated that it was recently implemented, sixteen (21.3%) revealed that it was progressing well and two (2.7%) indicated that it was visible throughout the organization. Figure 4.4 below presents a summary of views on the existence and application of incentive systems in administration at UNZA:

Figure 4.4: Incentive Systems

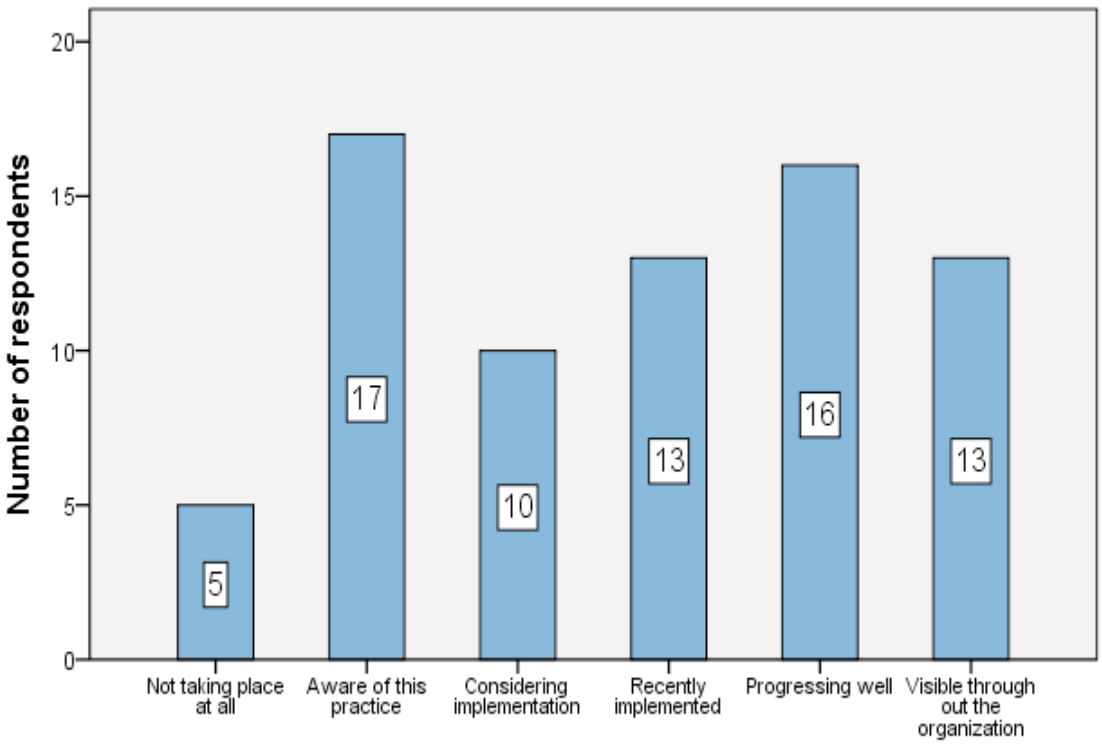


The results above show that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that UNZA's administrative structure was not promoting knowledge management through incentive systems.

4.1.1.4.5 External Structures

On the practice of establishing external structures with other universities for the purpose of knowledge sharing in administration, the findings revealed that out of seventy-four (74) respondents, five (6.7%) of respondents indicated that the practice was not taking place at all, seventeen (22.7%) were aware of the practice, ten (13.3%) indicated that the practice was being considered for implementation, thirteen (17.3%) revealed that it was recently implemented, sixteen (21.3%) indicated that the practice was progressing well, thirteen (17.3%) revealed that the practice was visible throughout the organization and one (1.3%) did not respond. Figure 4.5 below presents a summary of views on establishment of external structures:

Figure 4.5: External Structures



Management has established well-structured formal relationships with other universities. Shared knowledge objectives in administration and how to achieve them are agreed upon with these universities.

The above results show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's administrative structure was promoting knowledge management through external structures.

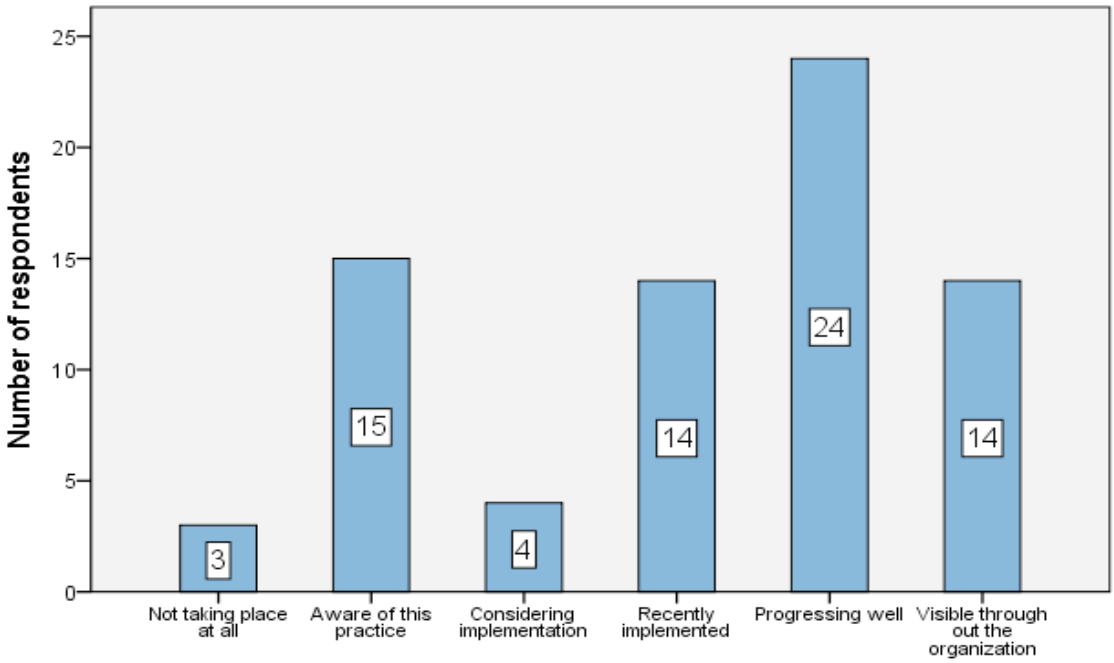
4.1.1.5 PROCESSES

This section aimed at determining UNZA's administrative work processes that supported effective knowledge management practices of knowledge creation, integration, codification, transfer and retention. Statements on development of procedures, knowledge integration, information management and knowledge retention were developed and asked to be scored on a Likert scale of between 0 and 5. A lowest score on a statement representing that the administrative processes did not promote knowledge management practices and a highest score representing a positive contribution to knowledge management practices in administration.

4.1.1.5.1 Standard Operating Procedures

To ascertain the practice of knowledge creation in administration, a statement on involvement of administrative staff in developing policies, work manuals and standard operating procedures was asked. The findings show that out of seventy-four (74) respondents, three (4.0%) of the respondents indicated that the practice was not taking place at all, fifteen (20.0%) were aware of the practice, four (5.3%) indicated that the practice was being considered for implementation, fourteen (18.7%) responded that the practice was recently implemented, twenty-four (32.0%) indicated that the practice was progressing well, fourteen (18.7%) revealed that the practice was visible throughout the organization and one (1.3%) did not respond. Figure 5.1 below presents a summary of view on involvement of administrative staff in developing standard operating procedures:

Figure 5.1: Standard Operating Procedures



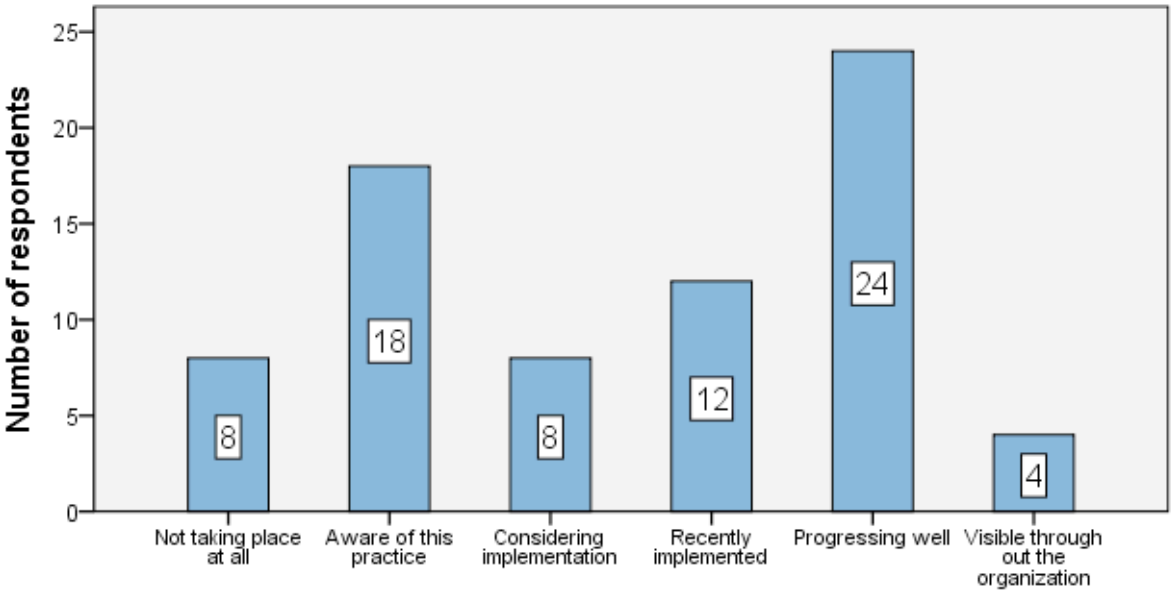
Members of staff with administrative roles are involved in developing policies, work manuals and standard operating procedures.

The results above show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's administrative processes promoted knowledge management practices through standard operating procedures.

4.1.1.5.2 Knowledge Integration

On ascertaining the practice of knowledge integration in administration, participants were asked if UNZA management and administration readily engaged core knowledge resources and capabilities across organizational boundaries/functions to face new management and administrative challenges, and if these were integrated with efficiency and speed using new knowledge to continuously adapt well-proven administrative processes. The findings show that out of seventy-four (74) respondents, eight (10.7%) of the respondents indicated that the practice was not taking place at all, eighteen (24.0%) were aware of the practice, eight (10.7%) indicated that the practice was being considered for implementation, twelve (16.0%) responded that the practice was recently implemented, twenty-four (32.0%) indicated that the practice was progressing well, four (5.3%) revealed that it was visible throughout the organization and one (1.3%) did not respond. Figure 5.2 below presents a summary of views on knowledge integration in administration at UNZA:

Figure 5.2: Knowledge Integration

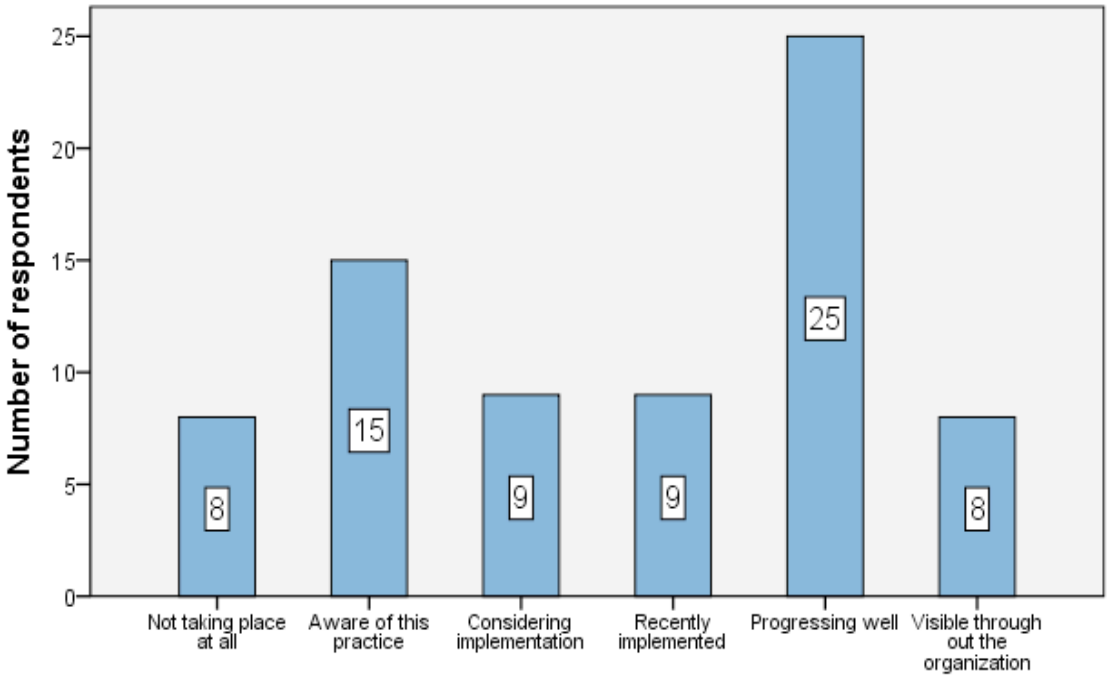


The results above show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's administrative processes promoted knowledge management practices through knowledge integration.

4.1.1.5.3 Information Management

To determine the practice of information management and how it was used to enhance knowledge creation, innovation and decision making, a statement was asked to be scored on whether processes for information acquisition, codification, and distribution were well established in university administration. The findings showed that out of seventy-four (74), eight (10.7%) respondents indicated that the practice was not taking place at all, fifteen (20.0%) were aware of the practice, nine (12.0%) indicated that the practice was being considered for implementation, nine (12.0%) revealed that it was recently implemented, twenty-five (33.3%) responded that it was progressing well, eight (10.7%) indicated that the practice was visible throughout the organization and one (1.3%) did not respond. Figure 5.3 below presents a summary of views on information management in administration at UNZA:

Figure 5.3: Information Management

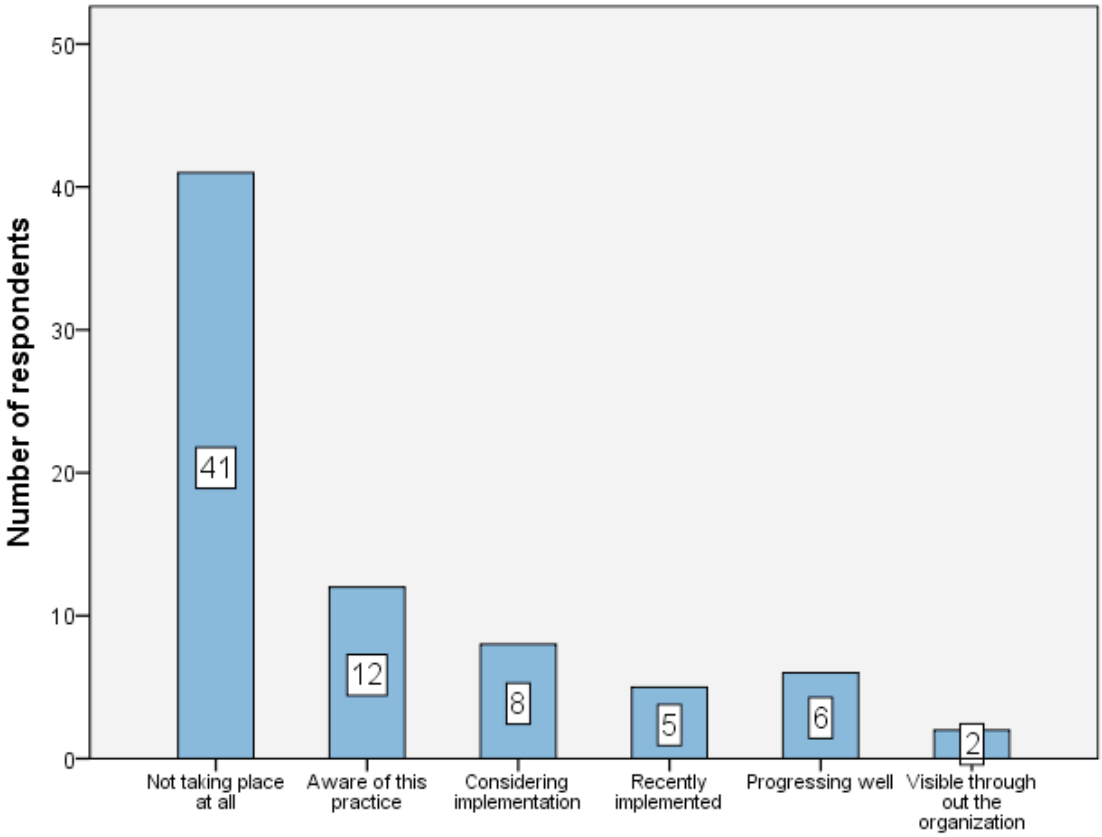


The above results show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's administrative processes promoted knowledge management practices through information management.

4.1.1.5.4 Knowledge Retention

To ascertain existence of knowledge retention practices in administration, participants were requested to rate the statement that succession planning, mentoring and exit interviews existed at UNZA. Figure 5.4 below presents a summary of views on knowledge retention which indicate that out of seventy-four (74) respondents, forty-one (54.7%) participants responded that the practice was not taking place at all, twelve (16.0%) were aware of the practice, eight (10.7%) indicated that the practice was being considered for implementation, five (6.7%) revealed that the practice was recently implemented, six (8.0%) responded that the practice was progressing well, two (2.7%) indicated that the practice was visible throughout the organization and one (1.3%) did not respond:

Figure 5.4: Knowledge Retention



The results above show that the majority of respondents indicated lower score of 2 (considering implementation) and below, with most of them (41) indicating the lowest score of 0 (not taking place at all). This reveals that UNZA's administrative processes did not promote the knowledge management practice of knowledge retention.

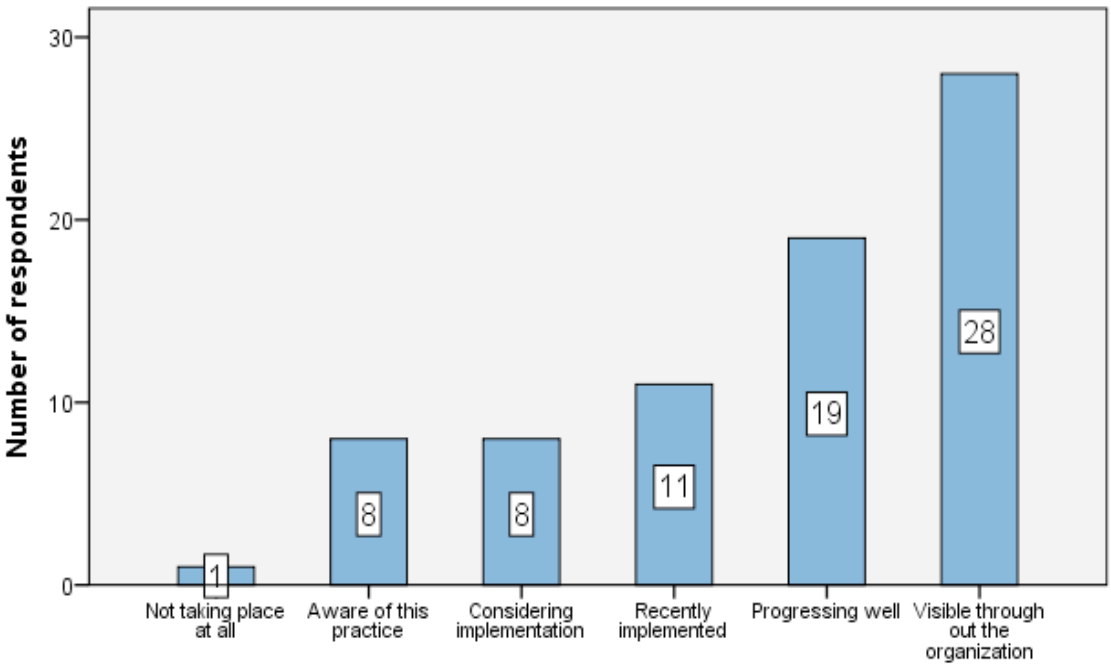
4.1.1.6 TECHNOLOGY

This section aimed at exploring technological infrastructure which supported knowledge management practices of knowledge creation, knowledge sharing and knowledge application in administration at UNZA. In doing so, statements on existence and usage of information system architecture, information technology infrastructure and knowledge management application were developed and asked to be scored on a Likert scale of between 0 and 5. A lowest score on a statement represented that the information technology did not support knowledge management practices and a highest score representing a positive contribution to knowledge management practices in administration.

4.1.1.6.1 Information System Architecture

On information system infrastructure, a statement was asked if UNZA had implemented information systems designed to enhance the effective access to information, interpersonal and group communication and collaboration. In response, out of seventy-five (75) respondents, statistics showed that one (1.3%) indicated that the practice was not taking place at all, eight (10.7%) were aware of the practice, eight (10.7%) indicated that the practice was being considered for implementation, eleven (14.7%) revealed that the practice was recently implemented, nineteen (25.3%) responded that the practice was progressing well and twenty-eight (37.3%) revealed that it was visible throughout the organization. Figure 6.1 below presents a summary of views on existence of information system architecture in administration at UNZA:

Figure 6.1: Information System Architecture

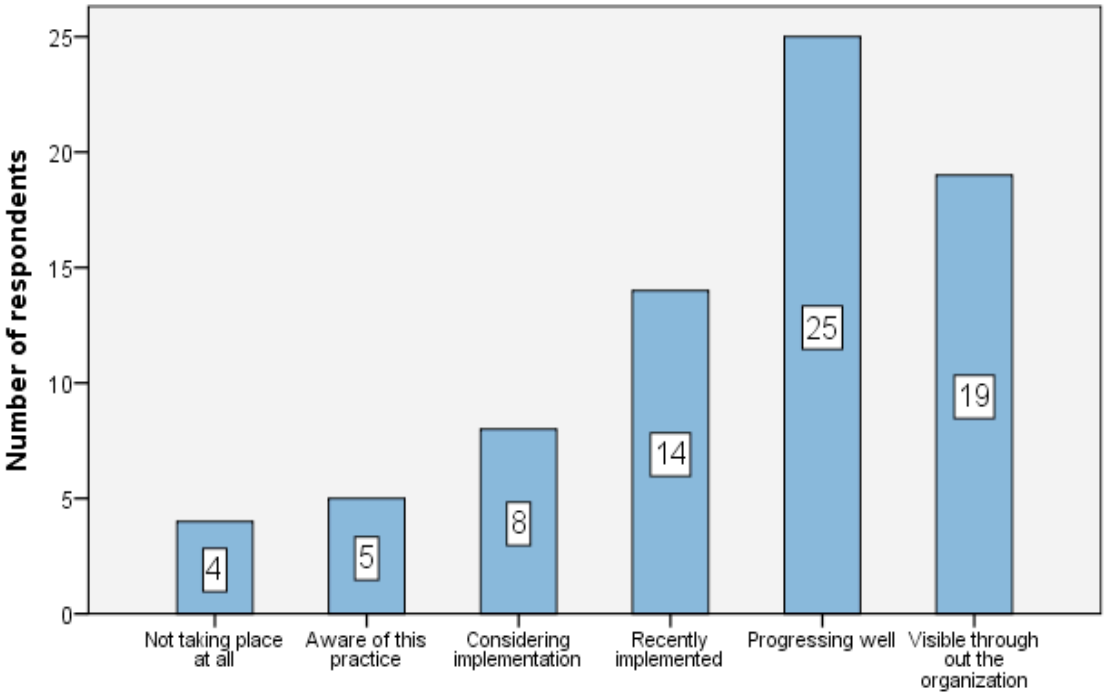


The results above show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's information system architecture supported knowledge management practices.

4.1.1.6.2 Information Technology Infrastructure

On availability, accessibility and connectivity of information technology infrastructure by management and administrative staff for effective knowledge creation, sharing and application, the findings revealed that out of seventy-five (75) respondents, four (5.3%) of the respondents indicated that it was not taking place at all, five (6.7%) were aware of the practice, eight (10.7%) indicated that it was being considered for implementation, fourteen (18.7%) stated that it was recently implemented, twenty-five (33.3%) responded that it was progressing well and nineteen (25.3%) revealed that it was visible throughout the organization. Figure 6.2 below presents a summary of views on availability, accessibility and connectivity of information technology infrastructure:

Figure 6.2: Information Technology Infrastructure

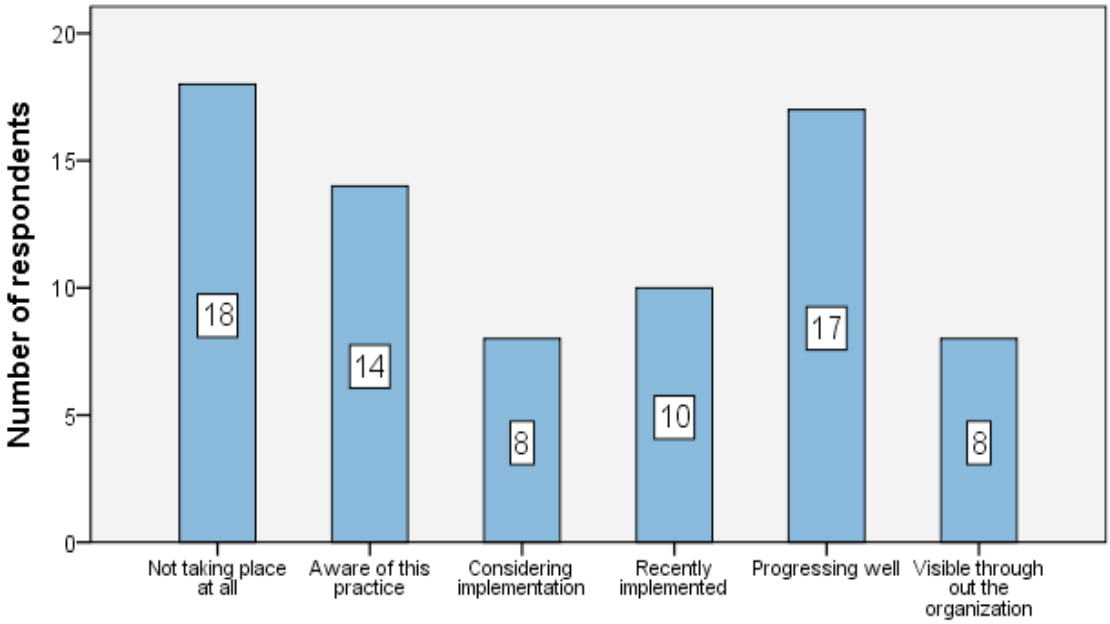


The above results show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that UNZA's information technology infrastructure supported knowledge management practices.

4.1.1.6.3 Knowledge Management Application Software

On knowledge management application software, participants were requested to determine if dedicated knowledge management software applications were functionally integrated and continuously aligned with the university's formal information system, and if this system was available, accessible and used for decision making by all administrative and management members. In response, out of seventy-five (75) respondents, eighteen (24.0%) indicated that this was not taking place at all, fourteen (18.7%) were aware of the practice, eight (10.7%) indicated that it was being considered for implementation, ten (13.3%) revealed that it was recently implemented, seventeen (22.7%) indicated that it was progressing well and eight (10.7%) responded that it was visible throughout the organization. Figure 6.3 below presents views on availability, integration and usage of knowledge management application software:

Figure 6.3: Knowledge Management Application Software



The results above show that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that UNZA's knowledge management application software was not in existence.

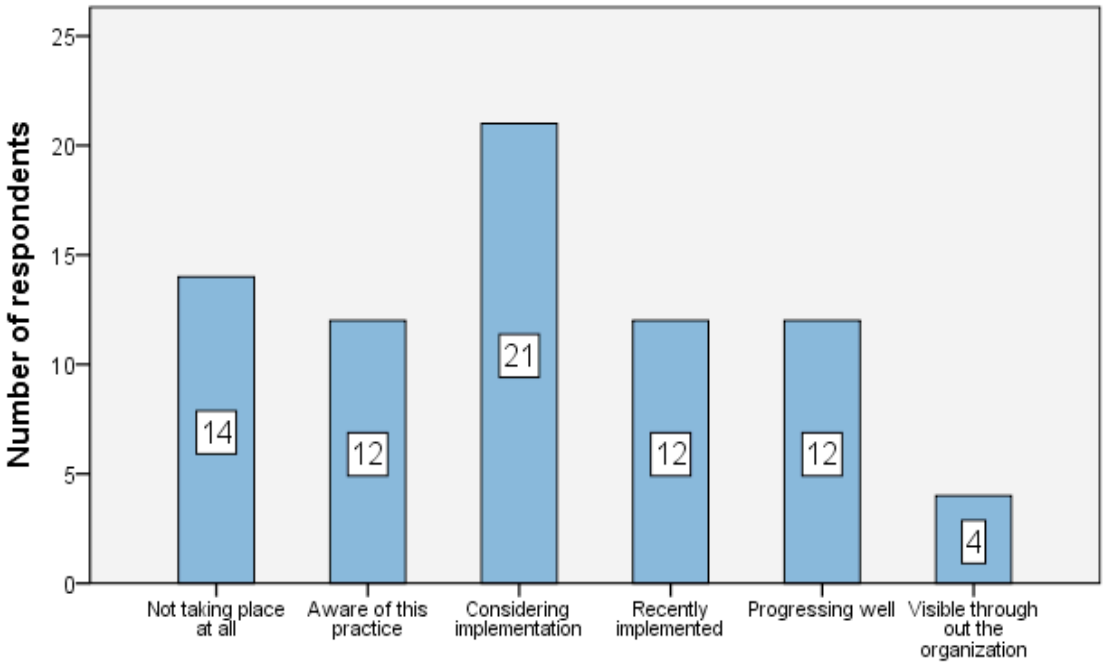
4.1.1.7 MEASURES

The aim of this section was to identify measurements of knowledge management enablers in administration at UNZA**.** To do this, statements on performance indicators, usage of knowledge management tools, knowledge management progress reports and alignment of knowledge management practices with the university's vision were asked to be scored on a Likert scale of between 0 and 5. A lowest score on a statement indicating that the knowledge management environment was not being monitored and evaluated and a highest score representing efforts by management to monitor and evaluate the knowledge management environment in administration.

4.1.1.7.1 Performance Indicators

To ascertain performance indicators on the contribution of management and administrative staff towards the performance of the university, respondents were asked if a formal system to measure and manage administrative intellectual capital was maintained. The findings show that out of seventy-five (75) respondents, fourteen (18.7%) of the respondents indicated that the practice was not taking place at all, twelve (16.0%) were aware of the practice, twenty-one (28.0%) revealed that it was being considered for implementation, twelve (16.0%) indicated that it was recently implemented, twelve (16.0%) responded that it was progressing well and four (5.3%) revealed that it was visible throughout the organization. Figure 7.1 below presents a summary of views on existence of performance indicators for measurement and management of administrative intellectual capital:

Figure 7.1: Performance Indicators



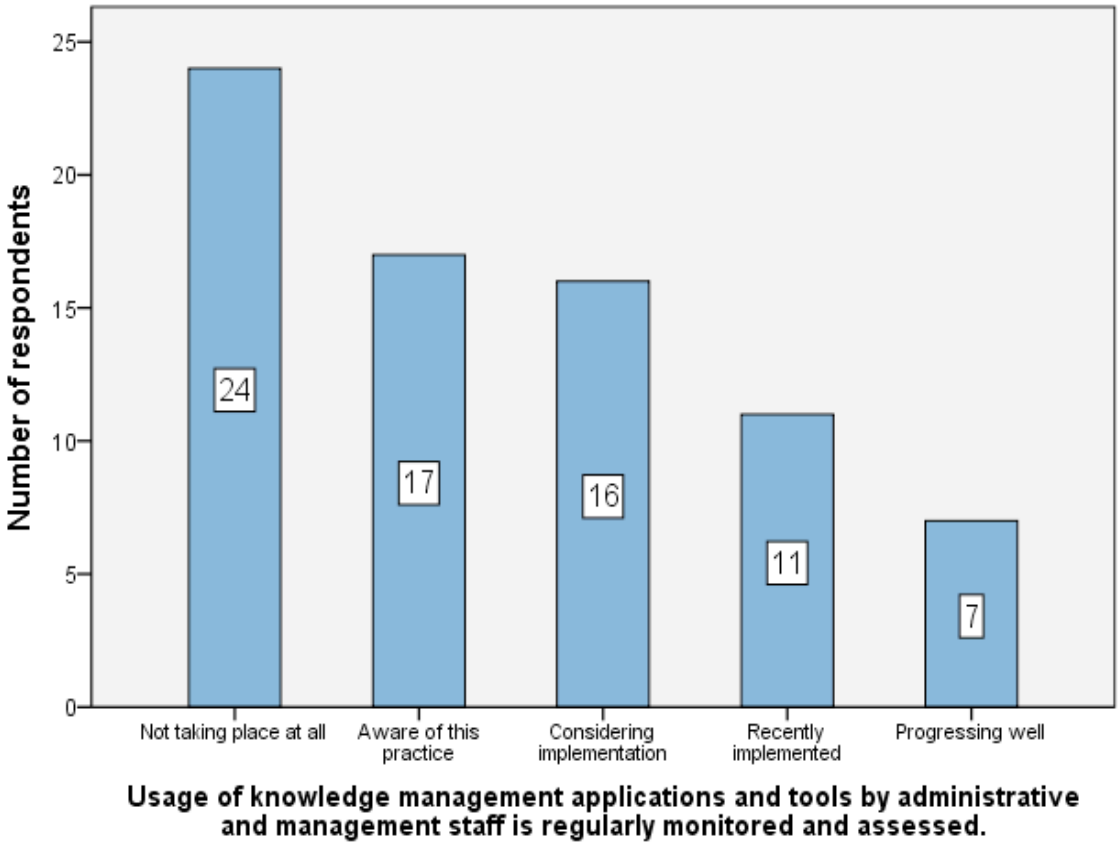
A formal system to measure and manage administrative intellectual capital is maintained. The measures are used to assess the contribution that administrative and management staff makes towards the university performance.

The results above show that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that there was lack of a formal system to measure and manage administrative intellectual capital.

4.1.1.7.2 Usage of Knowledge Management Tools

To assess the usage of knowledge management tools, participants were asked if usage of knowledge management applications and tools by administrative and management staff was regularly monitored and assessed. The findings revealed that out of seventy-five (75) respondents, twenty-four (32.0%) of participants indicated that it was not taking place at all, seventeen (22.7%0 were aware of the practice, sixteen (21.3%) indicated that it was being considered for implementation, eleven (14.7%) revealed that it was recently implemented and seven (9.3%) responded that it was progressing well. Figure 7.2 below presents a summary of views on monitoring and assessment of usage of knowledge management applications and tools:

Figure 7.2: Usage of Knowledge Management tools

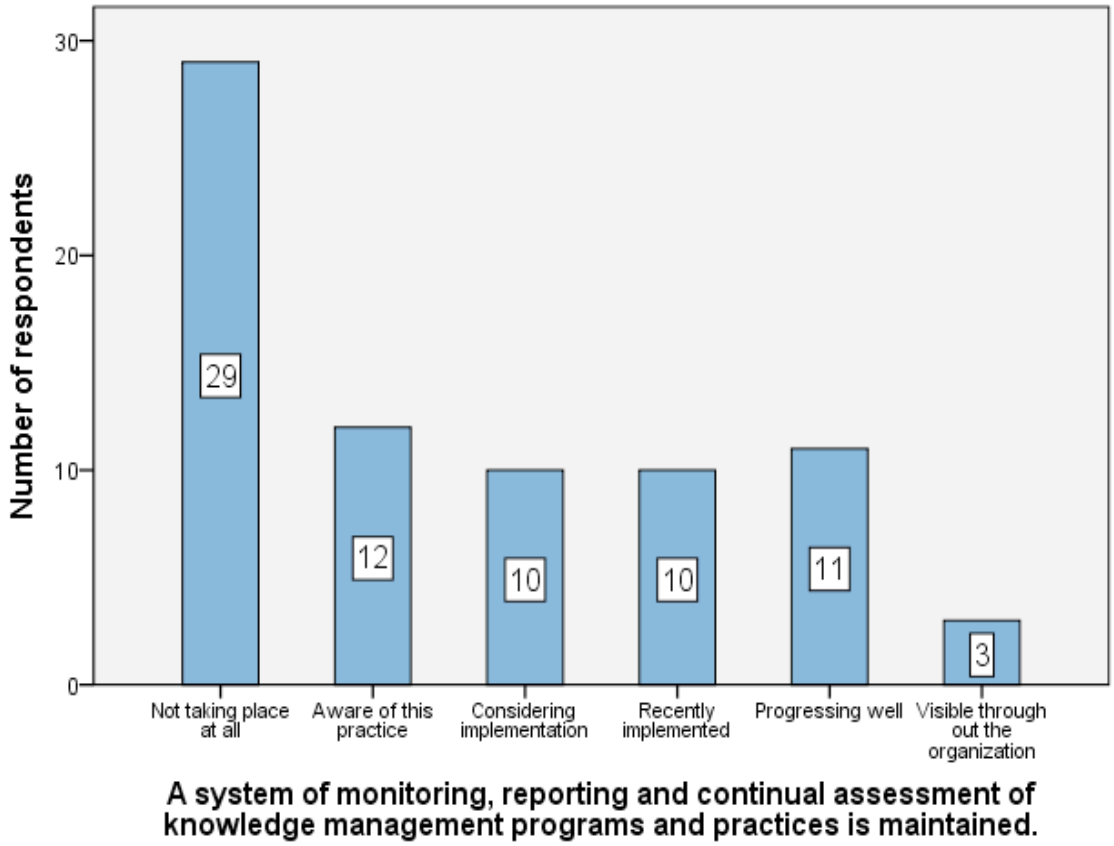


The above results show that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that usage of knowledge management tools by administrative staff was neither monitored nor assessed.

4.1.1.7.3 Knowledge Management Progress Reports

To determine assessment of knowledge management environment through reports, participants were asked if a system of monitoring, reporting and continual assessment of knowledge management programs and practices was maintained. Findings show that out of seventy-five (75) respondents, twenty-nine (38.7%) indicated that the practice was not taking place at all, twelve (16.0%) were aware of the practice, ten (13.3%) indicated that the practice was being considered for implementation, ten (13.3%) revealed that it was recently implemented, eleven (14.7%) responded that it was progressing well and three (4.0%) indicated that it was visible throughout the organization. Figure 7.3 below presents a summary of views on existence and maintenance of system and assessment of knowledge management programs through progress reports:

Figure 7.3: Knowledge Management Progress Reports



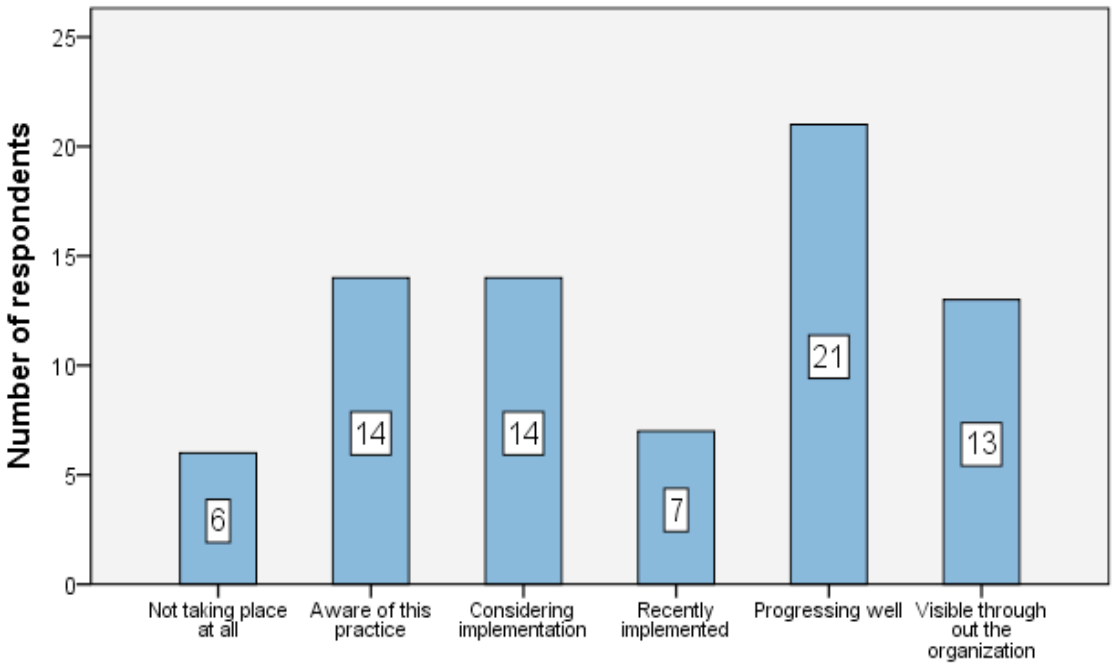
The results above show that the majority of respondents indicated lower scores of 2 (considering implementation) and below, revealing that the knowledge management environment was neither monitored nor measured through knowledge management progress reports.

4.1.1.7.4 Alignment

On alignment, participants perceptions were sought if top management fully understood/realized the importance of continually aligning the knowledge management practices with the university's vision, strategy and objectives as well as culture, structure, processes, and technology. The findings revealed that out of seventy-five (75) respondents, six (8.0%) indicated that this was not taking place at all, fourteen (18.7%) were aware about the practice by top management, fourteen (18.7%) indicated that top management was considering implementation of the practice, seven (9.3%) indicated that top management recently implemented this, twenty-one (28.0%) revealed that it was progressing well and thirteen (17.3%) indicated that it was visible throughout the organization. Figure 7.4 below presents a summary of views on understanding the importance of alignment of knowledge

management practices, vision, and strategy and knowledge management environment by top management:

Figure 7.4: Alignment



Top management fully understand/realizes the importance of continually aligning the knowledge management practices with the university's vision, strategy and objectives as well as culture, structure, processes, and technology.

The results above show that the majority of respondents indicated higher scores from 3 (recently implemented) and above, revealing that the respondent's perceptions were that top management understood the importance of aligning knowledge management practices with the university's vision, strategy and objectives.

4.1.2 FINDINGS FROM THE INTERVIEWS

This section presents findings from the interviewed members of the senior management team of the University. The findings from the interviews are presented mostly in narrative form, but with direct quotes in some cases.

4.1.2.1 CHARACTERISTICS OF RESPONDENTS

Nine interviews were supposed to be conducted, but only eight were conducted because one of the participants could not be interviewed as he was busy on several occasions when the researcher made follow ups on the appointment. After numerous

arrangements and follow ups, the participant declined to participate in the interview as he was busy with other activities. The following is the list of the interviewed members of senior management team.

POSITION OF INTERVIEWEE
The University Librarian
Dean, School of Education
Dean, School of Medicine
Director, Centre for Information and Communication Technologies
Deputy Registrar, Administration
Deputy Registrar, Council
Deputy Registrar, Academic Affairs
Chief Accountant, Schools and Units

Of the nine participants, six were male and two were female.

The nine participants were purposively sampled because they were in senior management and had administrative and knowledge management roles. Further, the nine participants were purposively sampled from 33 senior management staff because the research study used a mixed method approach where a survey was also conducted. Lee, Woo & Mackenzie (2002) support the selection of a few participants in a study with multiple methods of data collection and analysis. The interviews were guided by an interview schedule attached as Appendix II on page 165. The participants participated in the interview only and did not complete the questionnaire survey. Interviews were conducted to compliment the survey as well as to seek convergence and corroboration of results.

4.1.2.2 LEADERSHIP

This section of the interview was aimed at finding out the role of management in knowledge management in administration and how the vision of the university aligned knowledge management with the university's objectives. Particular attention was also

accorded on the involvement of management in preparation and communication of the university strategic plan.

4.1.2.2.1 Role of UNZA management in knowledge management practices

On the role of management in knowledge management practices, most of the interviewed members of senior management stated that management played a role in knowledge management at the university. The majority of the interviewees mentioned that management was involved in policy formulation and facilitated knowledge management activities through appointment of committees where knowledge was created and shared. Others stated that management facilitated the development of the strategic plan and spearheaded the preparation of work plans and that these activities were avenues for knowledge management. Most of the respondents stated that management also facilitated the provision of resources to create, share and utilize knowledge in the university. One interviewee also mentioned that management was involved in knowledge sharing through publication of the newsletter as well as through publication of annual reports. Only one of the interviewees mentioned that management was not doing enough to support knowledge management as the university had a structure that was not amenable to change. Some of the views expressed on the role of management in knowledge management practices were as follows:

Respondent 3 explained that:

> *I don't think we have had a platform where management has access to that type of information, we seem to all be doing things the way they are supposed to be done, and the university has a structure that is not amenable to change and therefore not open to learning, that was my experience in the six years I was Dean… and in the six years I don't think we revised a single manual.*

Respondent 3 explanation was clarified to mean that management was not doing enough in supporting knowledge management practices.

On the other hand, Respondent 1 mentioned that UNZA management played a key role of facilitator and vision carrier of the strategy. The respondent specifically explained that:

> *I see the role of UNZA management is that of a facilitator, this university has a strategic plan … there are certain objectives that will touch on aspects of knowledge management and therefore … units will have work plans … and on the basis of outputs, knowledge management practices exist.*

In addition, Respondent 6 mentioned that management encouraged knowledge creation and sharing through timely appointment of multidisciplinary committees as a process of management style. Respondent 6 own words were that:

> *UNZA works through the committee system, management facilitate the processes of knowledge management through the appointment of committees to create and share knowledge.... Management also facilitate provision of resources for forums where to share knowledge, for instance workshops and meetings.*

In the affirmative of management's positive role in knowledge management, Respondent 4 explained that:

> *Management always emphasizes the art of archiving knowledge ... management also helps in the area of critical thinking they encourage Lecturers and staff to be able to sit, think critically and create knowledge, ... the generation of knowledge and critical thinking is encouraged a lot by management. so you can see also that we have a newsletter as UNZA which comes out every quarter which captures all the projects, all the things happening in the institution, that is still management of knowledge, because you don't know all the things happening at School of Medicine so until somebody will capture that knowledge and share it with us through the newsletter of the university of Zambia. You also have the annual reports ... have a wealthy of knowledge ... because all the schools, units write annual reports which then are shared with the stakeholders and each annual report for each year is archived.*

4.1.2.2.2 Vision alignment with knowledge management objectives

When asked on how the university's vision embraced knowledge management activities, most of the respondents recognized that there was some alignment of

knowledge generation but that the vision did not explicitly articulate knowledge management. Two of the interviewees mentioned that knowledge generation was embraced by the vision but not knowledge management in general. Others responded that even though the vision only mentions knowledge generation in that it states, “to be a provider of world class services in higher education and knowledge generation”, it makes the university members to think and create knowledge, to share the knowledge and retain the knowledge through work manuals and policies. Some of the responses on the alignment of the vision with knowledge management included the following:

On vision alignment with knowledge management objectives, one respondent, Respondent 7 explained that in as much as the vision mentions knowledge generation which mainly applied to academic staff, he added that the vision also allowed administrative staff to think and create knowledge and that through it, the vision embraced knowledge management. Respondent 7 explained that:

> *I think the vision makes mention of knowledge generation, but I think this relates to research by academic staff. However, I think that the vision makes all members to think of knowledge creation and sharing… you know we create a lot of knowledge in offices as management and administration, either through work manuals and policies… and academic staff through research and publications…. So I think the vision embraces knowledge management...*

On the other hand, Respondent 3 felt that the vision did not embrace knowledge management. He explained that:

> *… to a large extent it doesn’t embrace knowledge management, the vision of UNZA to a large extent just promotes business as usual, it does not really espouse change or change management,… it only relates to research when it says knowledge generation. But I don’t think the vision talks about knowledge translation.*

Respondent 6 also explained that the vision did not come out clearly on how it is aligned to knowledge management. He specifically mentioned that:

> *UNZA is divided into three categories of staff ….academic staff … and when there is knowledge generated, it’s shared through lectures, research and consultancies. But the vision and knowledge*

management … it doesn't come out really to say this is how it is relating to knowledge management.

4.1.2.2.3 UNZA management involvement in strategic planning (Strategy)

On involvement of management in strategic planning, all respondents mentioned that management was involved in strategic planning from the onset. They mentioned that management was the vision carrier of the strategic plan of the university and therefore it set the tone. Most of the interviewees stated that management appointed a committee to spearhead the development of the strategic plan and membership of the committee included some members of the management team. They added that management shared their vision of where they wanted the university to be, to the committee tasked to spearhead the preparation of the strategic plan. Others mentioned that management was committed to strategic planning that it created a position of strategic planning manager who was responsible to coordinate logistics of the strategic planning committee. One of the interviewees further mentioned that management also facilitated allocation of resources for preparation and communication of the strategic plan. Most of the respondents stated that management was the custodian of the strategic plan and they spearheaded the communication of the plan to all stakeholders through workshops and seminars. One respondent also mentioned that the strategic planning was concentrated on the top management and the lower levels were less involved. The following are some of the narrations expressed by the interviewees:

Respondent 1 explained that management was a vision carrier and set the tone through appointment of the Strategic Planning Committee and further stated that:

Management ideally could be seen as custodian of the strategic plan … I see management being a vision carrier of the strategic plan … to the extent that management takes deliberate steps to sensitize staff about the strategic plan.

In collaborating the response from Respondent 1, Respondent 5 mentioned that:

… management takes the lead by appointing a committee to facilitate developing the strategic plan... they are involved in communication of the strategic plan by launching it and circulated to all employees.

In addition, Respondent 6 observed that:

> *Management works through committees, there is delegated responsibility in the university... so when they want to share the information on strategic plan or communication of the strategic plan, they usually form committees, like we had the strategic plan committee which sat to prepare the plan, of course what I noticed only a selected few, and the majority will just see the end result which is the strategic plan… its hierarchical, its concentrated on the top, the bottom will just receive the end product. The communication from the strategic plan is to the Deans and Heads of units who are expected to communicate to all their staff in the Unit.*

4.1.2.3 CULTURE

The aim of this section in the interview was to explore UNZA's administration culture in knowledge management and establish if the culture was conducive towards knowledge contribution and knowledge sharing. This was done by finding out how knowledge was communicated and shared in administration and the challenges faced in doing so. Further, questions were asked on how management encouraged knowledge creation and sharing and how administrative staff contributed their knowledge to the university knowledge base.

4.1.2.3.1 Knowledge communication and sharing in administration

On how knowledge was communicated and shared in administration, most interviewees stated that it was communicated and shared through memoranda, emailing system, social media, the intranet and formal meetings such as team building trainings, workshops, committee meetings and seminars. Others mentioned that knowledge was also shared through reports such as monthly, quarterly and annual reports, while others mentioned of informal meetings and recreational activities such as sporting activities and social interaction meetings. One of the respondents mentioned that there was lack of platform where administrative staff could share their experiences. Some of the responses on how knowledge was communicated and shared in administration included the following:

Respondent 1 explained that knowledge was communicated through various ways such as she specifically mentioned:

> *It's usually through memos, emails, through WhatsApp and through meetings.*

This was further collaborated by Respondent 3 who explained that:

> *I think most of the sharing of knowledge in terms of administration, really comes through meetings… it's more of on the job training… and so in meetings you will hear people saying I know this matter has been like this in the past and this is the way it has been sorted out … so you say okay so that's the way I should have done it as well.*

On the other hand, Respondent 8 felt that there was lack of platform for administrative staff to share knowledge. His views were that:

> *… from the staff point of view such a platform does not exist ... those who share its by chance but in terms of a formalized framework where people can share their experiences, it does not exist to my knowledge …on policies and knowledge generated by the university, there is some form of framework of disseminating this information ... the university might do that through committees and sub-committees ...even just through meetings including management meetings... and hopefully that knowledge will permeate down to subordinates, even though there is some knowledge disseminated through the intranet.*

Respondent 2 explained that knowledge was communicated through a number of channels as he stated that knowledge was shared:

> *…through memos, correspondence, circulars, through website sometimes and informal meetings where friends meet over lunch and they share their experiences.*

Respondent 7 mentioned that knowledge among administrative staff was shared:

> *through meetings, people gather together and they discover a common goal and people bring ideas that can be discussed ... through circulars, through memorandum, memos ...through the*

> *website... and from my own experience, for example one time when we went for a workshop in Siavonga, there were three of us who were jogging and shared experiences on how to manage our units.*

Respondent 4 elaborated that knowledge sharing among administrative staff was visible through a number of channels. He explained that:

> *Knowledge is shared through monthly, quarterly and annual reports. Shared through publications in journals, through official disseminating meetings and shared through articles in newspapers. CICT in particular, every Friday of every week starting at 14:00 hours staff share knowledge, how do we do it, during Mondays we publish the course or the knowledge areas which some member of staff within CICT will share to others on Friday. So we have session A is looking at a particular aspect, session B and so on, so staff in the Centre are told looking at your knowledge gaps, you go to sessions where the particular knowledge is shared. And these are very informal sessions. And also here at CICT we have a luncheon everyday which is very informal, people chat anything, share information, they mingle. And also during holidays such as Independence Day or end of year we meet informally for parties and during these, people share knowledge. But also in particular we have informal meetings on the system because we work on the computers, there is a forum we have in CICT where we share our knowledge and ideas...*

On the challenges faced by administrative staff when acquiring knowledge from each other, most interviewees stated that the university was conservative and too hierarchical and bureaucratic and hence difficult to share knowledge between junior staff and senior staff. They stated that due to a culture of titles where those with higher qualifications were considered to know it all could not share their knowledge and those without higher qualifications felt inferior to share their knowledge. Lack of mutual trust was another challenge mentioned. Most stated that knowledge hoarding was very rampant, as people did not want to share their experiences either because they believed in empire building where they would use what they knew as a bargaining power and to show others that they were the only ones knowledgeable about

something. Some of the respondents mentioned that there was lack of prescribed means and official platform where staff could easily share their experiences. One also responded that sometimes the knowledge was not codified nor archived and hence people could not access it. The following are some of the narrations of the challenges faced when acquiring knowledge from each other:

Respondent 8 mentioned that some challenges in knowledge sharing were due to the culture of seniority and bureaucracy. He explained in the following terms:

> *…you see ... what we have in the university is a culture of titles ... we still want to thrive on titles, this is doctor this, this is professor this and those that are mister it's the issue of what position are they ... you see what a platform would do will give everyone a chance regardless of the title, but in the absence of a platform you will find that just even in the corridors a junior officer can't easily share their knowledge with a superior or a professor or doctor.*

Respondent 4 also viewed the problem of hierarchy as a big hindrance in knowledge sharing. He explained that:

> *The barriers of seniority, because everybody fears you, so you can't acquire knowledge from those viewed as junior, you cannot also share the knowledge because of the barrier of seniority. You may want to come nearer they are running away or maybe they are coming nearer and you are running away because me I am senior. Administrative staff don't have really that official fora where they offload their knowledge ...unless there is a workshop where some people will go and share knowledge. We also have the barrier of selfishness because if say Mr A and Mr B are accountants now Mr A is specialized in a particular accounting area and more skilled than Mr B, now Mr A can't share with Mr B because Mr. A is worried that Mr. B might know as he knows, then the value for Mr. A will be reduced or Mr. B might surpass him, so because of that selfishness Mr. A hoards to the data so that he looks like a star so that he must look that he is the only one dependable so the boss will only rely on him so that he can be seen to have more value. If they share, they just share very little and not everything. We also don't share*

because of institutional politics ...if it is not handled well it hinders knowledge sharing...

Respondent 7 singled out knowledge hoarding as another barrier to knowledge sharing. His sentiments were that:

… you know there is what we call empire building... where people say I have this knowledge and if I share it I will lose power... so that is another challenge I see from administrative staff trying to hold on to what they know and they don't want to share. Another one is where people don't want to open up...

Respondent 1 mentioned that lack of knowledge codification and archival was a problem faced in acquiring knowledge among administrative staff. She explained that:

Maybe because some of this knowledge is not really archived properly…. So if there is no system of preservations, even if you wanted to acquire the knowledge, it's difficult. …. It also depends on the levels you are, the sharing is dependent on familiarity.

Respondent 2 mentioned that lack of platform and time to share knowledge was another challenge faced in administration. He stated that:

I think first of all its prescribed means for doing that, there none... I think that's the main problem, there is no platform where you can sit and talk with each other, and share ideas …try and encourage each other to do things in a particular way, no there no occasions such as that, there none. We are all busy teaching and doing our best to administrate in the way prescribed.

4.1.2.3.2 Management efforts encouraging knowledge creation and sharing

Most interviewees stated that management had made efforts to encourage knowledge creation and sharing. Most of them stated that management gave freedom to administrative staff to think, create and share knowledge. They added that management organized workshops where management and administrative staff shared knowledge. Majority of respondents mentioned that management provided the technology to create and share knowledge and that it encouraged all units and departments to hold monthly and quarterly meetings in order for members of staff to

share their experiences. One of the interviewees also stated that management had a system of commending staff who had innovated or shared their knowledge with others. Most respondents stated that management directed all administrative staff to prepare operational manuals for their offices in order to document their work processes and experiences so that these could be shared with others. On the part of management, one interviewee stated that a shared hard drive had been installed where knowledge is shared among management staff. He added that management had also created a repository where all members of staff could share their experiences. One of the respondents mentioned that the effort was not there by management to encourage knowledge sharing. Below are some of the narrations from the interviewees:

Respondent 1 mentioned that management was very instrumental in encouraging knowledge sharing. She narrated that:

> *I think UNZA gives you the space, the freedom to think, the technology to utilize, and sometimes the resources to share the knowledge you have … I don't think there is difficulty in sharing and creating knowledge ….*

Respondent 3 mentioned that management had come up with strategies and platforms where employees in administration could share knowledge. He mentioned of a particular case that:

> *… to some extent, because when I became Dean, they did organize a workshop for the Deans to get oriented and the programme was not very tight, meaning that it was a programme which was allowing for people to discuss, but then that one was really a platform for new Deans …. I think that would be one effort I can say …*

In addition, Respondent 6 mentioned that there were efforts on the part of management to encourage knowledge creation and sharing. He stated that:

> *I think one effort management is trying to do is creating monthly and quarterly meetings for administrative staff … it is one way of running orientation and helping to improve knowledge sharing. This has not been implemented yet but there are plans to it, they want to meet*

> *these so that they standardize and share processes, because there are a lot of challenges because of lack of information.*

Respondent 5 mentioned that management was influential in creating platforms for knowledge sharing among administrative staff. She explained that:

> *Management has done that through workshops at various levels and you will find that participants of those workshops are drawn not only from that hierarchy, so that people are there they will share ideas and you learn a lot from people who are on the ground who are doing the work, who are facing challenges, so they come up with ideas of how to solve the problems, of course training where facilitators will be able to train others … and through recreation such as sport.*

In addition, Respondent 4 recognized the efforts made by senior management to encourage knowledge creation and knowledge sharing among administrative staff. He explained that:

> *… there is a memo which came from the Vice-Chancellor saying that every quarter all Deans and Directors and Lecturers should at least write a paper in their areas of specialization ... and publish. And also there is encouragement by the provision of a budget for research ... it is motivating for staff to research, so the creation of a research fund is acting as a bait to encourage the creation and sharing of knowledge. And also management has said that they want to see the minutes of every unit that shows that you met and looked at the reports of the quarter, that is encouraging sharing of knowledge. Then also we have a shared hard-drive and every member of management is able to share and access information at their time and that is encouraging sharing of knowledge. Then there is a repository ... which is accessible by every member of staff and even students and is available online on UNZA's website.*

To the contrary, Respondent 8 felt that management was not doing enough to encourage administrative staff to create and share knowledge. He narrated that:

> *I doubt if there is any effort, why i say so is that in the year 2015, management did discuss that subject at length... the idea was that why don't we encourage people at various levels to mingle and interact in a social setup to be able to share experiences and knowledge basically and the starting point was the executive management... and of-course some senior managers. i am told it took place but very few attended and it failed because it was hoped that the institution would facilitate such a gathering but instead individuals were expected to spend from their pocket to go to a five star lodge and pay from their pockets, so where you have such you even wonder whether that is encouraging or promoting interaction so that people share knowledge and experiences and that is how come it died a natural death. So now if you have such kind of problems at that level, how much more at lower levels?*

On the measures employed by management to discourage knowledge and information hoarding, most respondents mentioned that management held one-to-one meetings with staff who were identified to hoard knowledge and encouraged them on the need to share knowledge. They also stated that management had been preparing to hold change management trainings where the issue of knowledge sharing could be stressed. Other respondents mentioned that management had encouraged heads of units to share knowledge. Some of the responses include the following:

Respondent 1 explained that most efforts were concentrated on academic staff unlike administrative staff. She mentioned of some examples as follows:

> *… if it's administration it's more on policies, I can only speak of academic staff because, if you don't share your knowledge there is no promotion…so in that sense I think there is a lot of incentives to promote knowledge sharing because the promotion criteria encourages you to publish and that is a way of sharing knowledge.*

Respondent 5 recognised efforts by management to discourage knowledge hoarding, but the efforts were not institutionalised, as explained that:

> *Management is trying to encourage Heads of departments, supervisors to share knowledge, although we do not have a communication policy which is lacking at the moment.*

Respondent 4 also recognized the efforts by management to discourage knowledge hoarding and encourage knowledge sharing, as he mentioned that:

> *There are meetings on one-to-one when someone is identified if there is problem, there are also several meetings held where management assures employees that management means well. There are also issues of letters, they write a particular letter to commend employees for knowledge sharing, and also Labour Day awards, annual awards and meritorious awards. So things like that motivate employees to share knowledge and break down things which make employees hoard knowledge.*

4.1.2.3.3 Administrative staff knowledge contribution

On administrative staff knowledge contribution to the university knowledge base, most respondents mentioned that administrative staff did not voluntary contribute to the knowledge base of the University. However, they stated that the only means of knowledge contribution known was the appointment of administrative staff to committees where they could contribute their knowledge. Only one respondent stated that there are few units, especially the Centre for Information and Communication Technologies (CICT) unit where employees held weekly meetings to share knowledge. The following are some of the narrations of administrative voluntary contribution to the university's knowledge base:

Respondent 8 explained that administrative staff contributed knowledge freely, but not to a large extent. He explained on the part of accountants that:

> *… any other time we are making our financial statements, we have fora where we call our accountants ...and share that we have this issue and what do you think... because they are also qualified people... and they will contribute. We have had monthly and quarterly meetings where we just try to review progress but at such meetings we try to give chance to accountants to bring out their views about our operations.*

Respondent 6 mentioned that administrative staff lacked the forum to voluntary contribute. He explained that:

> *The fora are not readily available, but sometimes administrative staff are appointed to sit on certain committees I think through those forums that's the only chance they have to contribute to the knowledge base. I think management should have a policy of … like we used to have a suggestion box it's no longer used. I remember a long time ago they even used to award people for suggestions they made, a case in point is on the labelling of university vehicles, it came from an administrative staff who advised management to say let's label all vehicles to avoid … so we need to have such an office or suggestion box where people can contribute freely, as of now it is not there.*

Respondent 7 narrated that certain units have platforms where administrative staff freely contribute their knowledge and that in some units the knowledge contribution was non-existent. He explained that:

> *At CICT we used to have weekly sessions where anyone of us could pick up a topic, research on the topic and present that topic ... and we had a day in a week to share the knowledge.*

4.1.2.4 STRUCTURE

This section aimed at examining UNZA's administrative organization structure and finding out if the structure promoted knowledge management practices. This was done through investigating how management exploited multi-disciplinary embodied knowledge from administrative staff, how knowledge management roles were embedded in administrative staff job descriptions and whether there were formal incentive systems used by management to motivate administrative staff to sustain the university's knowledge base. Further enquiry was made on how the university shared administrative knowledge with external partners such as universities.

4.1.2.4.1 Knowledge exploitation through communities of practice

On the means used by management to engage administrative staff to exploit multi-disciplinary embodied knowledge, most interviewees stated that management did that

through job rotation of administrative staff, appointment of administrative and management staff into committees and projects teams. They added that administrative staff were appointed in committees such as the strategic planning committee, landscaping committee, policy formulation committee and Re-engineering Income Generation committee, where they shared their knowledge, experiences, skills and talents. Most of the respondents also mentioned that administrative staff were appointed as facilitators in workshops. Others mentioned that apart from appointment to different committees, administrative staff were also given tasks beyond their job descriptions. Two respondents stated that management was not doing enough in exploiting knowledge from administrative staff and one stated that it was difficult to tell because members of staff were so preoccupied with office work and prescribed job descriptions. Below are some of the narrations from the interviewees:

Respondent 1 mentioned that knowledge was exploited from administrative staff through job rotations and they would be made to prepare work manuals in their previous unit. She added that this allowed the university to exploit the knowledge and transfer it to those who were new on the position in the unit. She explained that:

> *Administrative staff are constantly changed, maybe two or three years from one unit to the other, that enables people to have a very general overview of the operations of the institution.*

Respondent 3 recognised management efforts how knowledge was exploited from administrative staff through appointing them to project teams and committees. He explained that:

> *… administrative staff are appointed to committees and are secretariat, I don't think there is a committee or project where there are no administrative staff. It depends on the type of committee that they are appointed on, some committees are very specific, technical… some of the committees where their skills and knowledge are needed, they are appointed not as secretariat but as substantive members of that committee… so depending on the role of the committee, they play different roles.*

In addition, Respondent 6 echoed similar observations as from Respondent 3. He narrated that embodied knowledge from administrative staff through involving

them in specialized committees where they could contribute their knowledge. He stated that:

> *Usually through creation of specialized committees, management creates special committees where staff who have been identified to have special abilities are included in those committees and there staff are given an opportunity to contribute…for example the Re-engineering Income Generation committee, the strategic plan committee, policy formulation committees.*

Respondent 7 also recognized how knowledge is exploited from administrative staff through assignment of tasks. He mentioned that:

> *One way management uses is to give a certain task which is above their job descriptions, to carry out that task and to report back... that will tap into the reservoir of knowledge that they have...*

Respondent 4 responded that knowledge was exploited from administrative staff through:

> *… putting administrative staff in committees of management, they share a lot of knowledge and presentations on various aspects, for example when we were preparing the strategic plan, administrative staff in various units were given some areas to make presentations and those are inputs which go into the annual action plans for the university and that is part of knowledge sharing. Administrative staff are used a lot to write and document things as they are happening, they document and write reports on a frequent basis and that is knowledge still, and knowledge creation speeches of the Vice-Chancellor are written by administrative staff.*

On the other hand, Respondent 3 felt that little was being done to exploit knowledge from administrative staff despite them having a wealthy of knowledge. He clearly stated that:

> *The University is a very weird structure in my view, in that most of appointments are based on qualifications, and those qualifications being the named qualifications so to say, so when they say for you to be Senior Administrative Officer or Assistant Registrar you must*

> *have a bachelor's degree, it can be a bachelor's in anything … and yet Assistant Registrars have a lot of human resource functions …. But they are not given opportunities or platforms where they are encouraged to share their knowledge".*

In addition, Respondent 8 also felt that there was little which the university was doing to exploit administrative knowledge. He mentioned that:

> *… the general view is that there is very little … it will take somebody perhaps being talkative for the university administration to identify a person to be appointed in a committee… so there is no deliberate strategy to identify people or … to tap into knowledge or experiences of people … it's all by chance… so very little if not none.*

Respondent 2 explained that management was encouraging members of staff to go beyond their routines and offer or share their talents, in as much as everyone was stuck to their job description. He added that administrative staff were being appointed to committees in an effort to exploit their knowledge. He stated that:

> *It's very difficult to tell because we are so preoccupied with office work, jurisdictions, and division of labour …. Everyone should stick to their office work … job descriptions. I think management is trying to encourage the idea of going beyond the job description, but there isn't much any way. However, administrative staff are appointed in committees where they are encouraged to share their knowledge and experiences.*

4.1.2.4.2 Administrative staff knowledge management roles

Most of the respondents stated that knowledge management roles were well embedded in administrative job descriptions through statement on report writing, documentation of processes, dissemination of information, and implementation of meetings resolutions. Others mentioned that the job roles were very descriptive and that there was also a clause that stated that the supervisor may assign any other duties to the jobholder and this was a clause where most knowledge roles were given especially through delegation on report writing. Some of the responses included the following:

Respondent 1 explained that knowledge management roles were well embedded into job descriptions and employees were aware that whatever knowledge or process used and ascribed to should be documented. She explained that:

> *They are more to do with continuity, making sure that the institutions knowledge is not lost, the internal processes of wherever the unit they are… are documented so that you don't initiate a new process all the time, and these are established procedures.*

Respondent 5 explained that the knowledge management roles were well embedded in job descriptions and that that the job descriptions were very descriptive, but also accommodative to additional duties which would include knowledge management roles. She explained that:

> *I think the job descriptions for administrative staff … are very descriptive and routine, but despite that there is also that clause which says any other responsibility that is given to the job holder, I think that one … that is where some supervisors exploit the potential out of these administrative staff, they are given roles which are beyond the job descriptions to even draft concept papers and reports.*

4.1.2.4.3 Incentive systems in sustaining university's knowledge base

On recognized incentive systems used by management to motivate administrative staff to sustain the university's administrative knowledge, five responded that there were no incentives to motivate administrative staff. They added that even though certain award systems were available such as letters of commendation, Labour Day awards, School of Education quarterly awards, these were not meant to motivate staff to sustain the knowledge base. Some of the respondents stated that incentive systems existed such as commendation letters, free education for spouses and children of members of staff, career progression and sponsorship to attend professional associations' seminars and conferences. The majority felt that the incentive systems that were there were mostly entitlements of members of staff and not specifically, for motivating administrative staff to sustain the university base and in some cases the incentive systems mentioned by others were not adhered to. Below are some of the narrations from the interviewees:

Respondent 1 felt that the entitlements for members of staff could act as incentive systems for them to share knowledge. She narrated that:

> *… there is free education, people are given time off to go and study, people know that there is a clear structure where they can rise to and be promoted and people are given time off to go for professional meetings… so within UNZA I think there are lot of incentives.*

To the contrary, Respondent 8 categorically denied existence of any incentives for knowledge sharing. He stated that:

> *… there are none to my knowledge.*

Respondent 3 felt that incentive systems such as letters of commendation and taking employees for dinner would act as encouragement to share knowledge. He responded that:

> *I think letters of commendation, for example when we had the jubilee celebrations, there are letters which were written by higher management to people to congratulate their contributions … and sometimes just taking the people out for dinner or for workshop to appreciate their contributions.*

Respondent 6 felt that incentives were there before administrative staff were migrated to permanent and pensionable employment as the assessment for renewal of contract then was based on innovation and knowledge contribution. He added that now only academic staff had incentives during promotion because it is based on the research undertaken and the publications done. He narrated that:

> *Before we went on permanent and pensionable conditions of service, I think renewal of contract was like an incentive in a way because they used to assess innovation, what contribution somebody had done during the contract renewal. And before they stopped the promotion system of non-academic staff, as an incentive was to promote at that time, although it is no longer there, and then sometimes they used to give a merit increment for innovation and creativity, it used to be there that time, now management wants to bring back the performance appraisal system where I think all these things will be included.*

4.1.2.4.4 Administrative knowledge sharing with external structures and partners

Majority of interviewees mentioned that the university shared administrative knowledge with other universities through partnership meetings, conferences and seminars, management tours to other universities and by sitting on different statutory committees where experiences are shared. Others stated that administrative knowledge was shared through staff exchange even though it was not to a large extent and memorandum of understandings which were signed. One respondent stated that there was lack of a deliberate strategy to share administrative knowledge but sharing occurred through requests from other universities. Below are some of the views on administrative knowledge sharing with external structures and partners:

Respondent 1 was cognisant of administrative knowledge sharing through partnership meetings and conferences. She mentioned that:

> *… it's mostly through partnerships, meetings and conferences.*

Respondent 3 shared similar sentiments as Respondent 1, that knowledge was shared with external structures by sitting on statutory committees. He explained that:

> *I think the only way they share knowledge with other universities in my view is by sitting on the different statutory committees of those universities. So like UNZA because it has a memorandum of understanding with another university, they may have someone sitting on the senate of that university and so as he sits there he shares with them their experiences, there maybe someone sitting on the council of that university or sitting on any of the sub-committees, so that's a way to share, but otherwise there is no official platform where UNZA sits with its partners to share with them their learnt experiences.*

Respondent 5 also mentioned that administrative knowledge was shared through meetings and tours. She explained that:

> *There are all these contacts between universities, not just on academic matters but I think administration matters … Vice-Chancellor going to another university… and I am sure as they meet they discuss other things, they discuss on how their universities run.*

Respondent 4 shared similar sentiments that administrative knowledge was shared with external partners through visitations and tours to other institutions, as well as through annual reports and through the university website. He narrated that administrative knowledge was,

> *… shared through newsletters and are shared with other universities and also through visitations because i have been involved in a number of visitations to several institutions and you give a presentation on how you manage your institution ... through exposing annual reports on the website of the institution ...*

Respondent 6 illuminated that administrative knowledge was also shared with external partners upon request from the partners. He explained that:

> *Although there is no deliberate policy, but this is shared on request. I have been privileged to receive requests from universities like Nkhrumah, Mulungushi, CBU, they have come through to find out on processes on how to do things, so management delegates to various units where the knowledge can be found.*

4.1.2.5 PROCESSES

This section in the interview aimed at determining UNZA's administrative processes of knowledge management and finding out if work processes in administration supported effective knowledge management. This was done through investigating the roles played by administrative staff in development of policies and standard operating procedures and identifying knowledge resources used for knowledge integration. Enquiry was also made on information management processes that promoted innovation and decision making and the practices used to retain and transfer knowledge.

4.1.2.5.1 Management and administrative roles in development of standard operating procedures

All the respondents stated that management and administrative staff played vital roles in the development of policies, work manuals and standard operating procedures. Most of them mentioned that the roles of management were to ensure that work manuals and policies were developed after identification of the gaps by administrative

staff. They stated that management led the process of developing work manuals, policies and standard operating procedures by appointing committees to draft policies and approve policies. Most of the respondents mentioned that management identified administrative staff to prepare operational manuals, to draft policies and standard operating procedures. Others further mentioned that management gave guidance and direction on preparation of standard operating procedures. Most of the respondents stated that administrative staff identified new processes to be drafted, identified failing processes and drafted the processes, procedures and manuals for approval by committees appointed by management. Some of the interview narrations on involvement of management and administrative staff in developing standard operating procedures are presented below:

Respondent 4 echoed that both management and administrative staff played active roles in development of standard operating procedures. He explained that:

> *Management itself is to make sure that there are policies that respond to various needs, once a need has been identified so a policy needs to be put in place and then policies have to be stepped down into work manuals and standard operating procedures. Once a need has been identified, the policy formulation starts from the bottom up, administration staff are used to review and draft, after approval, administrative staff also implement the policy.*

Respondent 3 mentioned that management led the process of developing standard operating procedures. He stated that:

> *Management leads the process for the production of those documents, but I must say it takes a lot of time…. Administrative staff to a large extent they just play the role of secretariat.*

Respondent 8 explained that policies and procedures were mainly developed through committees. He stated that:

> *… this university is run on committees and most of these policies, these procedures are developed through committees, but the committees comprises no administrative staff... unless you are very talkative that is when you are appointed to such committees.*

Respondent 5 explained that management guided the process of policies and procedures formulation whilst administrative staff did the formulation. She stated that:

> *… they guide … and sometimes they tell us that it should come from the bottom, … they guide on what policies should be developed …*

Respondent 6 mentioned that management's role in policy and procedures formulation was to guide the process and provide necessary support such as logistics for workshops and appointment of committees in some instances, whilst administrative staff were actively involved in the development of standard operating procedures and policies. He narrated that:

> *Usually management gives instructions when they want such documents, for example on work manuals, management gave a directive that each administrative staff should produce a work manual for the office so management's role there is to give guidance, and then in the development of policies management appoints a committee to develop polices and adoption of these policies through Council committees. Management facilitate logistics and they sometimes sit on the same committees.*

Respondent 7 mentioned that administrative staff developed work procedures at section level whilst management facilitated policy formulation. He explained that:

> *… when you come to work procedures, that is done at section level and escalated up to where you have a policy put in place …*

Respondent 4 categorically stated that administrative staff were involved in identification and diagnosis of processes and later development of new processes which were escalated to management for approval. He stated that:

> *Administrative staff ... their role is identifying the new processes that need to be designed, identification of the processes that are failing the institution, then also when that is done, they make a draft step-by-step of how the process should look like meaning they document the new process or they make amendments to the old process. Management approves processes, approves policies and disseminate policies to all staff.*

4.1.2.5.2 Knowledge integration in solving administration challenges

On knowledge integration to solve administrative challenges, most of the respondents stated that there was knowledge integration in administration. They mentioned that management engaged academicians, technicians, professional staff, technical staff, senior staff, the aging staff and the workers' unions in solving administrative challenges, and depending on the challenge being faced. Two respondents also mentioned that management had in the past appointed committees to help solve administrative challenges and these committees consisted of a variety of expertise in the university inclusive of academic and non-academic staff. One respondent mentioned that almost all categories were involved but some junior staff such as technicians were sometimes not engaged. Below are some of the narrations from the interviewees:

Respondent 1 mentioned that when solving administrative challenges, sometime management used different members of staff with expertise, hence knowledge integration was practised. She explained that:

> *I think everyone, I don't think you can just say administrative staff, the response will be dependent on the type challenge… depending on where the challenge is, and then appropriate staff within UNZA are engaged.*

Respondent 3 echoed similar sentiments that knowledge integration was well practised through involvement of different experts in committees to intervene in administrative challenges. He mentioned that:

> *Once in a while the university has formed particular committees to look at matters. I remember there was a time when the university clinic was having particular challenges and they wanted those challenges addressed, the central administration appointed a committee of people who could advise and that committee had terms of reference and they worked through their terms of reference. Then they sat down with management and said well… these are the challenges and these would be the solutions. That committee comprised people who had knowledge about health care provision, people who had knowledge of running the universities… but it also had people from outside the university.*

Respondent 2 also explained that different categories of employees were relied upon in times of challenges. He explained that:

> *Academic members of staff are relied upon, the aging are relied upon because of their experience … and the young ones are also relied upon because they also look at things differently.*

Respondent 6 mentioned that different expertise such as academicians were used in administrative matters. He explained that:

> *… because of the nature of the institution, you find that management will rely on academicians, professors, to sort out administrative issues for example when they wanted to disseminate the performance appraisal they relied on professors as facilitators instead of administrators themselves… and I think management uses these academicians most of the times not in their fields but because of the seniority attached to their positions, just the rank of professor they feel they can contribute ….*

4.1.2.5.3 Information management processes in administration

On availability of information management processes, most respondents stated that information was acquired through staff development and training programmes. They added that information was documented in almost all administrative transactions in the university and the documents were well filed and distributed to all people who needed information on particular transactions. Some respondents mentioned that the university's general policy encouraged innovation and most employees were involved through knowledge creation. Some of the responses included the following:

Respondent 1 explained that information management was mainly a preserve of committees. She explained that:

> *UNZA is managed by committees, it's the committee decision making that strengthen the administrative function and decision making.*

Respondent 3 mentioned that the University's policy on innovation was clear and therefore every employee was expected to be innovative by creating knowledge. He explained that:

> *In terms of innovation I think it's very clear from UNZA's general policy that as an employee of the University of Zambia you are encouraged to be innovative and that the university will provide a platform for innovation… so everyone is given that understanding. But there are no platforms to specifically teach about innovation, but we are only given space to innovate.*

Respondent 5 explained that information management in administration was well organised as most of the transactions were recorded and well filed. She explained that:

> *Most of the transactions in administration are recorded, including deliberations in meetings. You find that this information is well kept in files and folders for easy retrieval. So I think the information management in the university is very good to support decision making.*

4.1.2.5.4 Knowledge retention practices

Most respondents stated that the university administration lacked knowledge retention practices. Most respondents mentioned that there was no policy on knowledge retention and activities such as succession planning, mentorship and exit interviews were not being conducted. They added that only in situations where junior staff were left to act on a senior position because the senior staff had gone on leave. Others mentioned that the only retention and transfer of knowledge known was through development of operational manuals, which was practiced at a lower rate. Two respondents responded that there was lack of a platform to transfer and retain knowledge. One respondent stated that it was only recent that a new unit of information management had been created to look at the issues of knowledge transfer and retention. Below are some of the responses on the existences of knowledge retention practices:

Respondent 1 expressed ignorance of any knowledge retention and transfer strategies. She mentioned that:

> *I really don't know of any knowledge retention and transfer mechanisms used.*

Respondent 8 mentioned that there was lack of knowledge retention and transfer mechanisms. He mentioned that there was no succession planning in the university. His exact narration was that:

> *What I haven't seen is a formalized succession plan ... because one would imagine that if you want to retain people especially those that you are losing through retirement you want them to mentor and train somebody who still has some years, but what we see is as if it's a job thing, to keep a person in a job because he needs it and not because they have been kept because they have to train one or two people... that's the challenge that the university is in.*

Respondent 5 mentioned that administrative staff were involved in knowledge retention and transfer though not in a formalised way. She mentioned that:

> *I think it's involving them in these number of committees, using their expertise and experiences, encouraging them to write and document their experiences, using them in workshops to share their experiences …but all these things are not happening. I think there are also succession planning where administrative staff are working under senior experienced people…*

Respondent 6 explained that knowledge retention was not done, but with the establishment of a unit of information management, it was hoped that knowledge could be retained and transferred. His exact word were that:

> *Like now management has created a unit for information management which will help in the retention of knowledge and then in some cases some supervisors are alive to succession planning in certain instances although we don't have a succession policy at the moment. Mentorship is not fully implemented, it takes the initiative of the supervisor sometimes.*

4.1.2.6 TECHNOLOGY

The aim of this section was to explore the technology infrastructure that supported knowledge management in administration. This was done through finding out the availability of widely used information systems, availability of technology infrastructure

to management and administrative staff and availability of knowledge management application software for decision making in administration.

4.1.2.6.1 Information system architecture in administration

On the availability and usage of information systems, most of the respondents mentioned that the university management and administration had access to the internet system, the intranet, the student information system, Accys Peopleware Human Resources and Payroll Software, the Unicorn Library System, Online Registration System, Resident Engineer's System and the Sage500 Line Accounting System. One respondent also mentioned that management had a shared hard drive file saver system. Most of the interviewees added that access to these systems was dependent on the roles played by the staff. Not all management and administrative staff had access to the systems because responsibilities differed depending on the unit where someone was operating from. Most of the respondents stated that the usability of the information systems was dependent on the responsibilities by particular staff. However, most interviewees were quick to mention that the intranet was not widely used. Another respondent mentioned that most systems were not actively used because the governance of the system or management had not enforced the use of the systems. He explained that only the Student Information System was being used to 50% and the Sage500 Line Accounting System was the only system that was actively used. Below are some of the views on the availability and usability of information systems in administration:

Respondent 1 confirmed that the university had a lot of information systems responding to different needs. She narrated that:

> *We have a lot of information systems… (*usability*) it is dependent on the activity… we have the human resource system, … the academic information system, the clinic information system, the library information system. So there are a lot of information systems responding to different specific needs of the institution.*

Respondent 3 mentioned of one system which was the student information system, but expressed concern that it had challenges to work. His exact words were that:

> *The student information system that's the only system that I know and I don't really appreciate it very much … because it was very*

poorly run I must say, so rather than trying to run a system that could not run on its own, I didn't pay much attention to it.

Respondent 2 explained the he knew of the internet and intranet as some of the systems used for knowledge sharing. He was however quick to mention that he did not know how to use the intranet, a picture he felt was common among administrative staff: He mentioned that:

We have our internet of course, I am told we have an intranet but I am not sure how it is used …

Respondent 5 mentioned that the internet and intranet were such information systems used to share knowledge.

It's the internet, we have this new system of sharing information, and the intranet.

Respondent 7 explained that the university had adequate technology systems such as intranet and internet connection. However, he elaborated that the problem was on the usage as these systems were not used 100% for knowledge management. He narrated that:

The website, the intranet, through email, social media ...if i have to put a percentage I think the use of emails within management is 50 to 60 %...

Respondent 4 echoed that the University had a wide range of technology architecture and systems, but that most of them were underutilised in terms of knowledge management because the governance has not enforced the use of these technologies. He explained that:

.. the Student Information System, the SAGE accounting system, Accys Peopleware Human Resources and Payroll Software, we also have the intranet, of course emailing system, internet system, management we use file server system. We also have the resident engineer system, housing management system and management also uses memorandum of understanding system. In our institution, several of the systems are white hyenas or elephants not being used … because the technology pillar does not have the authority of

governance, it cannot be heard by anybody to enforce the use of systems. Maybe on the Student Information System it is used up to 50 %.

4.1.2.6.2 Information technology infrastructure in administration

Most interviewees stated that there was accessibility and connectivity to information technology infrastructure in management and administration. Most respondents mentioned the available IT infrastructure such as computers, printers, fibre optic cables, internet, and radio links. Most of the interviewees mentioned that computers and printers were deployed to all management and administrative staff and that internet was connected to all computers. They added that despite the availability of IT infrastructure, the utilization in some instances was poor in relation to knowledge creation, sharing, transfer and utilization because some members of staff used computers to play games or browse the internet for personal use or buying vehicles from Japan. Below are some of the narrations on management and administration accessibility and connectivity to information technology infrastructure and usage:

Respondent 4 highlighted a number of technology infrastructure available in the university and readily accessible to administrative and management staff. He narrated that:

We have data access devices including computers, routers, laptops and server devices which offer services to … computers in offices, we also have servers which are many according to the responsibilities, for example we have email servers, website servers and payroll servers. We also have network devices, we have routers and switches for networks.

Respondent 3 also mentioned of the technology infrastructure available, but expressed doubt that the usage may not be for knowledge management purposes, as many employees used the infrastructure for their personal business or study. he explained that:

We have fiber optic cable that connects us to main campus, but just in case such fails us, we have a radio link as well… within the school we have radios between certain points and so we have both wired internet and wireless internet connectivity.

Respondent 7 mentioned that all administrative and management were connected to technology infrastructure, but he bemoaned that the use was not for knowledge management purposes by most of the staff. He narrated that:

> *Most of the offices have computers or laptops, but at the center at CICT we still have a challenge of servers, we do not have enough servers to accommodate all the systems that we are using. The utilization is at a lower par ... those facilities are not used according to what they are intended to be used. you find others playing games, downloading films, but to use it for the purpose of transferring knowledge or acquiring knowledge ... I don't know whether its lack of training... so utilization is on the low side.*

4.1.2.6.3 Knowledge management application software for decision making

On availability, accessibility and usability of knowledge management application software, most respondents mentioned that there were no knowledge management application software. The majority stated that only information systems such as the Student Information System and the Sage500 Line Accounting System were accessible and used for decision making. They added that even then, not all decisions were made based on the data from the system because sometimes there was lack of data integrity from these systems. One interviewee even mentioned that the data in the student information system was inaccurate in most times and that decisions were made based on management interpretation of situations prevailing in the university either through information from managers, students and sometimes from government directives. Some of the views from respondents included the following:

Respondent 1 mentioned that the university lacked knowledge management application software for decision making. She explained that:

> *I think there is no management software put in place that has been deliberately deployed for decision making.*

Respondent 8 explained that there were two knowledge management applications, the Sage accounting software and the student information system software. He however explained that the accounting software was the only dependable one as all financial decisions were made based on the information form the software. He mentioned that the student information system had challenges and did not assist much in decision

making because in most circumstances there was data integrity problems. He narrated that:

> *The Sage accounting package is a source of our financial reports … I can say that we rely on this package to produce reports and remember that these reports are the basis on which financial decisions are made. The student information system is not very well utilized, of course we must admit that we have had challenges with the student record system in terms of data integrity but I think nothing much has been done.*

Respondent 2 mentioned that sometimes decisions were made from systems but to a lesser extent. He added that most decisions were made from hearsay from newspapers reports, and radio comments. His exact words were that:

> *To some degree yes decisions are made from systems but to a lesser extent…, but sometimes mostly decisions are made based on students reports … from UNZA radio comments and newspaper reports … and we make decisions based on what newspapers have reported…*

Respondent 4 explained that the university had two reliable knowledge management applications, but management was underutilising them in decision making. He explained that:

> *We have student information system, human resource system … we have those two where management can have the information, but the only thing I have noticed is that management are not utilizing these systems.*

4.1.2.7 MEASURES

The aim of this section in the interview was to identify measurements of knowledge management enablers in administration at UNZA and to find out if the knowledge management environment was monitored and evaluated. This was done through asking participants if the university measured the contribution of management and administrative staff towards university performance and how the usage of knowledge management application by management and administrative staff was monitored and

assessed. Enquiry was also made if management monitored and assessed knowledge management programmes and practices in the university.

4.1.2.7.1 Performance indicators on management and administrative staff contribution towards university performance

In terms of measurement of contribution of management and administrative staff contribution towards university performance, most respondents mentioned that there was lack of such a measurement. The majority mentioned that there was lack of performance appraisal system, which could have been the best method of measuring the contribution by individual management and administrative staff. Three of the interviewees mentioned that in the absence of a performance appraisal system, they thought may be the measurement at the time was only through monthly, quarterly and annual reports. Below are some of the narrations from the interviewees:

Respondent 3 explained that there was lack of measurements of performance indicators to see how staff contributed to university performance. He explained that:

> *there has been nothing like that … in the years I have been on Deanship, we have been talking about the annual appraisal system which I hear is being flagged off this year finally… which is seven years later… so in my tenure we just kept talking about it… there are no appraisal systems.*

Respondent 6 observed that it was not easy to track the individual contributions to university performance. He explained that:

> *At the moment … it is difficult to tell if whether there is even that tracking system, but maybe at individual supervisory level… management is trying to put things in place, for example the information management unit have started going round to see how actively we are trying to use knowledge in units.*

Respondent 8 doubtfully singled out the selection of labour day awards as a performance indicator for staff contribution to university performance. However, he was quick to mention that even then, the selection was not reliable and was far from being objective, hence it could not be the best way of measuring staff contribution to university performance. He explained that:

> *… so far the only measure is the labour day award, the assumption is that you are assuming that someone has performed, however how empirical that process is leaves no much to be desired, one would have imagined that there would be a proper appraisal system that will measure that such kind of performance, but if you want to have a committee which will look at faces who can we give a labour day award, then that becomes something else.*

Respondent 5 mentioned that during the time when employees were on contract, performance indicators as measurement of individual contribution to university performance was being done through assessment for renewal of contract. However, she added that at present, the system was not there, though performance appraisal was being rolled out in different units. She narrated that:

> *I think in the past it was there, it was there but it was haphazard… but with this introduction of the performance appraisal system, I think it will be easy to pin point because every year each staff member will be appraised on their contribution. Some departments have implemented the performance appraisal, but has not been 100% deployed in the university. I think it has partially been implemented.*

Respondent 2 also mentioned that there was nothing much to measure performance with, but through quarterly reports. He explained that:

> *… I think the quarterly reports are the ones that are helping us… and what we also hear on radio, or on television is what makes us evaluate ourselves.*

Respondent 4 felt that performance was measured from annual reports: he explained that:

> *Well most of these come up in annual reports at different levels ... I think from there they can be able to measure.*

4.1.2.7.2 Usage of knowledge management tools in administration

In terms of monitoring and assessment of the use of knowledge management applications by management and administration, most of the respondents mentioned that they did not know if it was happening or it could be done by the Centre for

Information and Communication Technologies. Two respondents where information systems were used stated that the usage of the systems were monitored and assessed by the system administrators and that usage was controlled by restrictive system privileges assigned to the users. One respondent from CICT, the unit responsible from monitoring and assessment mentioned that all systems were monitored by the Centre using the Multi-Router Traffic Grapher (MTRG). He added that this was a monitoring tool which measured and assed the usage by amounts of hits per hour in a minute, day, month or year. The views of the interviewees on monitoring of usage of knowledge management tools are presented below:

Respondent 3 explained that usage of knowledge management tools was not monitored. He explained that:

> *I don't think they are monitored … I think each responsible member of staff has been responsible for his own staff so to say, so we have been battling with our secretaries that don't use the internet for buying cars from Japan … and we tell them that's not the use of the internet. But there has been no way I think in which we have had a wide university wide system for monitoring? No…not that I know of.*

Respondent 8 explained that the usage of knowledge management tools was well monitored in administration. He explained that:

> *I know that for instance the student records system in terms of the protocols in terms of the levels of access, including the Sage there are certain things certain accountants can do and others cannot do… so in that sense … in so far as access is concerned, it's properly monitored.*

In addition, Respondent 5 mentioned that monitoring of the knowledge management tools was done through the restriction of privileges especially in systems and applications. She mentioned that:

> *The use of these application systems is very restrictive and access is by permission, very few staff have access… and monitoring can only be done by the system administrator and it is only done when there is a problem.*

Respondent 7 felt that assessment of usage of knowledge management tools was done by the Centre for Information and Communication Technologies (CICT). He mentioned that:

> *I think CICT has a package they use to assess the usage of the systems...*

4.1.2.7.3 Monitoring, assessment and alignment of knowledge management programmes and practices

On monitoring, assessment and alignment of knowledge management programmes and practices by management, most of the respondents stated that knowledge management programmes were not even known by management because the institution did not have a knowledge management policy. They added that all the knowledge practices that were happening in the university were not formally known, but coincidental or accidental and that the practices done by employees were not thought in line of knowledge management programmes but as employee's routine work processes. Three respondents stated that they felt knowledge management programmes were monitored and assessed through periodic audits of knowledge management practices by checking of systems in place and through self-evaluation of practices, through strategic planning meetings and through preparation of monthly, quarterly and annual reports. Some of the views expressed are presented below:

Respondent 3 mentioned that monitoring, assessment and alignment was not being done because in the first place there was no institutionalised knowledge management programmes and practices. He explained that:

> *… at the moment I don't think that is being monitored, I don't think we have knowledge management evaluation really… no it doesn't exist.*

Respondent 8 explained that there were no formally implemented knowledge management programmes and therefore monitoring and assessment could not be thought of in those lines. He narrated that:

> *The university is being run … its management by crisis … that's the mode in which we are... and when you have management by crisis it means each day you wake up ... Oh … there is this and you are reactive. There is no pragmatism on the part of the management to*

> *try and look at these processes, look at these tools, look at these programmes and what is it that the university can benefit from them, what is the cost, what is it we are trying to achieve and how is this related to the overall vision of the university, we don't seem to have that appreciation as much as our vision is talking about knowledge generation, I don't think that has been put into context of actual operations.*

Respondent 2 felt that maybe monitoring and assessment was done through reports from different university units. He narrated that:

> *May be management is trying to assess through the contacts they have with the schools and units, through the reports we give them.*

Respondent 6 categorically stated that there was no knowledge management policy hence monitoring and assessment was not feasible. He explained that:

> *Currently there is no policy, the creation of the Information Management Unit is the one which is coming up with processes on how we are going to monitor and asses how knowledge is used towards the university performance.*

In addition, Respondent 4 echoed similar sentiments from other respondents who stated that there was lack of formally institutionalised knowledge management programmes and practices, hence there was nothing to monitor or assess. He explained that:

> *I am not really privy to that information. In terms of administration I have heard of people who have done dissertations on human resources management in the University of Zambia, people have published but there has been no dissemination whatsoever … and I don't think there was any platform created that that information should get to the people who are supposed to use it, so I think knowledge management programmmes and practices do not even officially exist at UNZA. And if that is the case, then there is nothing to assess.*

4.2 CONCLUSION

This chapter presented findings from the collected data obtained from the survey and interviews, respectively. The presentation of the findings from the survey were descriptive and statistical, whilst the findings from the interview were mostly presented in narrative and in some instances, direct quotes were presented. In the next chapter, Chapter Five, interpretation and discussion of study findings will be presented. The interpretation and discussion of study findings is based on the research objectives and questions.

CHAPTER FIVE

INTERPRETATION AND DISCUSSION OF RESEARCH FINDINGS

5.0 INTRODUCTION

The previous chapter, Chapter Four presented the findings of the study. It presented both the survey findings and interview findings in themes as adapted from Botha & Fouché's reference model.

This chapter presents detailed interpretations and discussions of the findings of the study. The interpretation and discussion is presented in themes from Botha & Fouché's (2002) reference model, but obscured in form of objectives. The discussion of findings integrates the results of the survey and the findings of the interviews. The findings are combined in order to note the convergence of results as a way of strengthening the claims of the study or to explain the lack of convergence. Each section of the theme/or objective gives a concluding paragraph stating the profile of the University of Zambia on the specific theme. In addition, the last theme summarises the knowledge management practices found or lack thereof in administration at the University of Zambia.

The first and general objective of the study was to identify what knowledge management practices existed in administration at the University of Zambia. The process of doing so involved the assessment of the knowledge management environment, using enablers for effective knowledge management. The literature revealed that knowledge management practices were capabilities covering intentional and systematic processes or practices of acquiring, capturing, storing, sharing, transmitting and use of productive knowledge wherever it resides to enhance organizational learning and performance (Scarborough, Swan & Preston, 1999). This study therefore presents the knowledge management practices identified at UNZA as the last section after presenting all other objectives, which involved assessment of the knowledge management environment.

5.1 LEADERSHIP INVOLVEMENT IN KNOWLEDGE MANAGEMENT

The second objective of the study was to assess leadership involvement in knowledge management at UNZA. The reviewed literature in Chapter Two indicated that leadership

was one of the knowledge enablers for effective knowledge implementation. Further, leadership was identified as the most critical success factor in knowledge management implementation (Yip. Lau & Songip, 2010). Botha & Fouché (2002) explain that organizational leadership was the core knowledge management enabler as all other enablers such as culture, structure, processes and technology constantly aligned with it. Literature further revealed that leadership was the key knowledge management enabler, which could influence effective knowledge management strategy by influencing the nature of knowledge resources present in the organization, their deployment and their utilization (Sunassee & Sewry, 2002). Just as Kotter (1990) posits that leadership commitment to effective knowledge management is demonstrated by a clear vision, strategy, inspirational motivation and continuous alignment of people to the vision and strategy by an appeal to professional and personal objectives and values.

The findings of the study in the survey established that something was being done by university leadership in having a vision on the critical importance of knowledge for the achievement of university objectives and that the vision was clearly articulated and mutually shared by members of staff. Further, the survey findings established that leadership was doing something in implementing a strategy to create and apply knowledge that aligned with operational objectives of enhancing administrative decision making and performance. The findings also established that university leadership was doing something on organizational learning as learning objectives with respect to knowledge gained from adapting to Higher Education Authority requirements as well as student needs were jointly set and actively pursued by administrative departments. The survey showed that a cumulative percentage of 76% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the organization, thereby recognising that something was being done by university leadership on the vision. In like manner, a cumulative percentage of 61.3% of respondents recognised that university leadership was doing something on strategy implementation for creation and application of knowledge, as well as aligning with operational objectives. 54.7% of responds recognised the efforts being done by university leadership on organizational learning through adapting learning objectives to Higher Education Authority requirements.

In congruence with the survey, results from the interview established that university leadership played a major role in knowledge management through their involvement in policy formulation, facilitation of knowledge management activities and active participation in

development of the strategic plan. Further, the interview results established that university leadership played a role in facilitating the provision of resources to create, share and utilize knowledge in the university. The interviews also established that the university's vision and strategy aligned knowledge management with operational objectives.

In this regard, this study has shown that leadership was involved in knowledge management at UNZA. Leadership at UNZA plays a role of an effective knowledge management enabler as it is committed to effective knowledge management through demonstration of a clear vision, participation in development of strategy, offering resources, inspirational motivation and facilitation of knowledge management activities and its continuous alignment of people to the vision and institutional objectives. These are necessary parameters set by Kotter (1990), which are met by the UNZA leadership. It can thus be concluded under this section that the University of Zambia profile on leadership can be scored on the fourth score, which indicates **progressing well** on the questionnaire of the survey. The University needs to step up efforts through formally institutionalising the involvement of leadership in knowledge management practices, in order for leadership involvement to be **visible throughout the university**.

5.2 UNZA'S ADMINISTRATIVE CULTURE IN KNOWLEDGE MANAGEMENT

The third objective of the study was to explore UNZA's administrative culture in knowledge management. The reviewed literature in Chapter Two identified culture as one of the most important knowledge management enabler which can either hinder of promote effective knowledge management (Rollet, 2003). Further, the literature indicated that a positive culture could encourage knowledge communication, collaboration, cooperation, sharing and contribution. Botha & Fouché (2001) are quoted in literature review supporting that culture is the key factor that determines the success or otherwise with knowledge management and that culture as advanced by Roobin (2004) is a set of values, beliefs, norms, meaning and procedures shared by organization members. Therefore, these values, beliefs, norms and procedures affect the way in which knowledge is managed, and can as a result, either encourage or discourage the use of knowledge management practices (Davel & Snyman, 2005). Literature further indicated that a knowledge enriching culture had attributes such as intense communication climate of openness and trust, a clear understanding of the mutual benefits of knowledge sharing, urge to exploit knowledge by collaborative joint ventures and cooperation (Botha & Fouché, 2001).

The findings of the study in the survey established that UNZA's administrative culture was not conducive for knowledge management. The survey established that something was being done on UNZA's knowledge communication in administration where there was an intense, open, widespread and free flowing knowledge and information communication in administration and across organizational boundaries, which was understood, by mutual trust, understanding and respect. The survey showed that a cumulative percentage of 50.7% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the organization on the variable of communication, thereby recognising that something was being done on the variable of communication. The survey also established that something was being done on collaboration in administration where collaborative relationships existed in forms of alliances and partnerships among units and departments for the purpose of joint knowledge development, innovation and knowledge sharing. The survey showed a cumulative percentage of 60.6% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the organization on the variable of collaboration, thereby recognising that something was being done on collaboration.

In establishing workplace culture, the survey revealed that nothing was being done, where knowledge sharing and information exchange was not promoted in administration by management support and was not encouraged through use of physical work environment such as open areas, co-located offices and informal meeting places. The survey showed that a cumulative percentage of 52.1% of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, on the variable of workplace, with not taking place at all ,having a higher percentage of 22.7% of respondents. This recognises that nothing was being done on workplace culture of knowledge sharing and information exchange, apart from some respondents being aware of the practice and others indicating that the practice was being considered for implementation.

On knowledge sharing in administration, the survey revealed that nothing was being done, as a natural awareness of mutual benefits of sharing knowledge was not instilled in all administrative staff and had not become a way of life. Management did not recognize knowledge sharing and knowledge creation efforts and did not firmly discourage knowledge and information hoarding. The survey showed that a cumulative percentage of 50.6% of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, on the variable of knowledge sharing, with aware of this

practice, having a higher percentage of 25.3% of respondents. This recognises that nothing was being done on knowledge sharing, despite people being aware of the practice but evidence showed that the implementation was not done.

In a similar circumstance, nothing was being done on knowledge contribution in administration, as a culture of voluntary contribution to UNZA's knowledge base was not widely entrenched among administrative members, teams and groups and the utilization of the knowledge base was not well engrained as standard operating procedure. The survey showed that a cumulative percentage of 57.4% of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, on the variable of knowledge contribution, with aware of this practice, having a higher percentage of 22.7% of respondents. This recognises that nothing was being done on knowledge contribution, despite people being aware of the practice but evidence showed that the implementation was not done.

On the other hand, the results of the interview established that there was a culture of knowledge communication through prescribed processes such as memoranda, reports, emailing system, meetings, workshops and meetings. However, most interviewees revealed that there were numerous challenges faced by administrative staff when acquiring knowledge from each other, vis-à-vis, conservative and bureaucratic management style, lack of mutual trust, knowledge hoarding, lack of prescribed means and official platform for knowledge sharing and non-codification of knowledge. The interview further revealed that management encouraged knowledge creation and sharing through organization of workshops, provision of technology for knowledge sharing, holding of monthly and quarterly meetings, through commendation of staff who innovated. Management also encouraged knowledge creation through compelling staff to prepare operational manuals, as well as encouraging heads of units to share knowledge. On administrative staff knowledge contribution, the interviews established that administrative staff did not voluntary contribute their knowledge to the knowledge base of the university. The only means of contribution was through appointment into committees.

This study explored the administrative culture of UNZA and shows that the responses from the survey and those from the interviews are synchronizing, of course after careful analysis. The survey has shown that the administrative culture was not conducive for some knowledge management practices such as workplace culture, knowledge sharing and

knowledge contribution. Whilst the survey critically exposes the poor practices of workplace culture, knowledge sharing and knowledge contribution, the interviews show that the administrative culture embraces knowledge sharing to some extent, though with numerous challenges of knowledge hoarding, lack of mutual trust, hierarchical boundaries and lack of prescribed means of knowledge sharing. In addition, interviews revealed that management was making efforts to encourage knowledge creation and sharing. However, the sentiments in the interview are not different from responses from the survey on knowledge contribution being poor.

On a positive note, findings from both the survey and interviews established that the administrative culture was conducive for knowledge communication and collaboration. This study has therefore shown that UNZA's administrative culture has potential to support knowledge management practices, but not maturely conducive, as some areas need to be improved in order to fully support practices of knowledge sharing and knowledge contribution. As Botha & Fouché (2001) stated that the daily routine of organizations should involve exploitation of opportunities created by a workplace setting of open spaces, communication and collaboration across organization hierarchical structures and team and organization achievements to be socialized, there is enough room for UNZA's administrative culture to be improved.

This section can therefore be concluded that UNZA is making steady developments towards an administrative culture for knowledge management, but it is still not conducive. The culture was only conducive in knowledge communication and collaboration, but had challenges in knowledge sharing and knowledge contribution. The University of Zambia profile on administrative culture can therefore be placed on the third score, which indicates **considering implementation** on the questionnaire of the survey. The university needs to create an enabling environment for implementation of knowledge sharing and knowledge contribution strategies for the culture to be conducive for knowledge management and for the efforts to be ranked as **progressing well**.

5.3 UNZA'S ADMINISTRATIVE AND ORGANIZATIONAL STRUCTURE WITH REGARD TO KNOWLEDGE MANAGEMENT

The fourth objective of the study was to examine UNZA's administrative and organizational structure with regard to knowledge management. The main question was to find out if the

governance structure of UNZA's administrative departments promoted knowledge management practices. The reviewed literature in Chapter Two reveals that organizational structure is one of the important knowledge management enablers. As was advanced by Pinchot & Pinchot (1996), fundamental shifts in organization structure are required for knowledge to be effectively utilised in organizations. The shift should be progressive in terms of division of labour, allocation of division rights, demarcation of organizational boundaries and networks of informal relationships. In answering the fourth objective, this study relied on Botha & Fouché's (2001) guidance that an organization's structure should have formally institutionalised knowledge management roles and responsibilities and a regular management-employee feedback communication on knowledge performance that can sustain knowledge awareness. They further advance that knowledge management conducive structures should consist of formalised incentive systems for knowledge sharing and contribution initiatives and formal and informal networking with external organizations.

The findings of the survey established that UNZA's administrative structure in terms of communities of practice such as teams and groups was positively contributing to knowledge management practices of knowledge acquisition, knowledge creation and knowledge sharing through exploiting embodied knowledge from multidisciplinary and cross-functional employees. This is revealed in the survey where a cumulative percentage of 60% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the organization on the statement that management and administrative staff were appointed into project teams, committees or workgroups with multi-disciplinary and cross-functional members in order to exploit all embodied knowledge. The results reveal that communities of practice exist in administrative departments of the university and university leadership is instrumental in creating and making functional these communities of practices of teams and groups. This discovery at UNZA is accordant with Botha & Fouché (2001) revelations that communities of practice are important in organizations because that is where knowledge acquisition, creation and knowledge integration takes place. Further, Wamundila (2008) reached similar conclusions on knowledge sharing and knowledge transfer through communities of practice, where he discovered that employees at UNZA shared knowledge among themselves in meetings.

The survey findings on knowledge management roles revealed that the administrative structure was promoting knowledge management practices and knowledge awareness. The results on knowledge management roles revealed that a cumulative percentage of 64% of

respondents indicated higher scores of recently implemented, progressing well and visible throughout the organization on the statement that specific knowledge management roles in management and administration were defined, appointments made and responsibilities allocated. These respondents were positive that employees in the appointed positions accepted responsibility to promote knowledge management awareness throughout the university. As Botha & Fouché (2001) and Pinchot & Pinchot (1996) illuminate on the importance of knowledge management roles and division of labour, respectively, the results show that knowledge awareness was taking place at UNZA.

Survey findings on management communication established that knowledge and knowledge management were regular agenda points for the formal and informal two-way communication sessions held between management and administrative staff. The results revealed that a cumulative percentage of 53.3% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the organization on the variable of management communication. The results mean that administrative structure was promoting management communication, as some respondents (17.3%) observed that management communication was recently implemented, whilst the majority (24%) observed that the practice of management communication was progressing well and others (12%) indicated that the practice was visible throughout the university.

On incentive systems, the survey results established that a cumulative percentage of 58.7% of respondents indicated the lower scores of not taking place at all, aware of this practice and considering implementation. The majority in the cumulative percentage were those who responded that they were not aware of the practice with their percentage standing at 26.7%. The results on incentive systems are contrary to what Botha & Fouché (2001) advance that for effective knowledge sharing and contribution to be achieved, formalised incentive systems should be implemented.

The survey findings on external structures with other universities for the purpose of knowledge sharing in administration established that management had established well-structured formal relationships with other universities where they shared knowledge objectives in administration and how to achieve them was agreed upon with these universities. The results revealed that a cumulative percentage of 55.9% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the university. External structures have been identified by Botha & Fouché (2001) as key

strategies, which should be encouraged if knowledge sharing and contribution initiatives are to flourish in organizations. A revelation that UNZA's administrative structure in external structures was on the positive.

The interview results on the other hand established that UNZA's administrative structure promoted knowledge management practices of knowledge creation, acquisition and sharing through communities of practice and external structures and knowledge awareness through knowledge management roles. The interviews revealed that 5 interviewees knew and identified how management exploited multi-disciplinary embodied knowledge from administrative staff. The majority of interviewees also knew and identified how knowledge management roles were embedded in job descriptions. Further, 7 interviewees were able to identify and explain how administrative knowledge was shared with external structures and partners. Interviewees identified and explained that knowledge creation, exploitation and sharing was encouraged by management through job rotations, appointment of administrative and management staff into committees and project teams. This reveals that in such special committees, employees would share their knowledge, experiences, skills and talents, which is a necessary strategy in knowledge management through use of communities of practice as advanced by Mohamad (2012). In affirming the importance and existence of knowledge exploitation, some interviewees went further to explain that apart from appointment to committees, administrative staff were given responsibilities beyond their job descriptions and such responsibilities would often be associated to knowledge management activities. All interviewees indicating that knowledge management roles were well embedded in job descriptions through statements on report writing, documentation of processes, dissemination of information and implementation of meeting resolutions; a clear indication that UNZA's administrative structure through division of labour as advanced by Pinchot & Pinchot (1996), supported knowledge management.

Further, the interview findings revealed that 7 interviewees identified administrative knowledge sharing ways such as partnership meetings, conferences and seminars, management tours, appointment on statutory Committees, staff exchange and memorandum of understandings as ways of sharing administrative knowledge with external structures and partners. This is a positive contribution of UNZA's administrative structure towards knowledge management. One interviewee however mentioned that there was lack of deliberate strategy. This is only a revelation that the knowledge sharing with external structures was happening but there was need for formally institutionalising the practice.

On a negative side was the revelation from interview results just like on the survey that there was lack of formally recognised incentive systems used by management to motivate administrative staff to sustain the university's administrative knowledge base. This was revealed in the interviews when five interviewees categorically stated that there were no incentive systems. Three interviewees mentioned that such incentives could be seen through conditions of service entitlements of free education for employees' spouse and children, commendation letters, Labour Day awards and sponsorship for international conferences. However, the majority of interviewees though recognised such incentives, they explained that such were entitlements and were not specific incentives, which encouraged administrative staff to sustain the university knowledge base, and that in most cases even the same entitlements were rarely adhered to. This revelation explains that UNZA's administrative structure in terms of incentive systems was not promoting knowledge management practices, a situation which hinders knowledge management implementation as advanced by Shoemaker (2014), Ali et' al (2014) and Choy & Suk (2005).

This section examined UNZA's administrative structure with regard to knowledge management and assessed if the governance structure of UNZA's administrative departments promoted knowledge management practices of knowledge creation, acquisition, sharing, exploitation and transfer. The results from the survey are collaborating with interview results. Both data collection methods established that UNZA's administrative structure was promoting knowledge management practices mentioned above through communities of practices (teams and groups), knowledge management roles, management communication and external structures. However, the university needs to identify and implement recognised and formally institutionalised incentive systems to motivate administrative staff to sustain the university's administrative knowledge base. It has also been established that the administrative structure mechanisms of communities of practice, knowledge management roles, management communication and external structures are strongly led and supported by university leadership, which has been active in fostering these. However, though very positive, these practices are promoted by leadership without a formalised knowledge management strategy. The findings on administrative structure in promoting knowledge management vindicate Botha & Fouché (2001) and Pinchot & Pinchot (1996) arguments that organizational culture is an important key success factor of knowledge management implementation and fundamental shifts in organizational structure support effective use of knowledge in the knowledge economy, respectively.

In view of above discussions, it can be concluded in this section that UNZA's administrative structure is progressing well in promoting knowledge management practices. UNZA's administrative structure profile can therefore be ranked as **progressing well** on the questionnaire of the survey. The university needs to work on the incentive system that could promote sustenance of its administrative knowledge base for the contribution of administrative structure in knowledge management to be **visible throughout the organization**

5.4 UNZA'S ADMINISTRATIVE PROCESSES OF KNOWLEDGE MANAGEMENT

The fifth objective of the study was to determine UNZA's administrative processes that supported effective knowledge management practices of knowledge creation, integration, codification, transfer and retention. Processes have been identified as important knowledge management enablers, which can promote effective knowledge management implementation (Botha & Fouché 2005; Razi & Karim 2010; Sureh 2012; Zwain, Teong & Othman 2014). Knowledge creation in administration was established through the survey where a cumulative percentage of 69.4% indicated higher scores of recently implemented, progressing well and visible throughout the university. These results are collaborated with interview results, which revealed that management and administrative staff played a vital role in development of policies, work manuals and standard operating procedures. The interviews revealed that management led the process of developing standard operating procedures by providing guidance, resources and appointing committees to draft policies and procedures. In addition, administrative staff were key in identifying needs for new policies and procedures, and drafting and preparing policies and procedures. The existence of this knowledge management practice at UNZA rejuvenates the existence of knowledge creation, codification and integration through standard operating procedures. These activities in UNZA administration illuminates Davenport & Prusak (1998) observation that knowledge, apart from being embodied in people, is also embedded in organizational routines, processes, practices and documents.

Further, survey and interview results corroborate when they established that knowledge integration existed in UNZA administration through engagement of core knowledge resources and capabilities across organizational boundaries and functions when faced with new administrative and management challenges. The interviews revealed that management engaged such diverse knowledge resources as academicians, technicians, professional

staff, aging workforce and worker's unions. The survey revealed that a cumulative percentage of 53.3% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the university, on the statement if UNZA management and administration readily engaged core knowledge resources and capabilities. Knowledge integration can be successfully implemented if organizations are able to identify the knowledge they possess and with whom it resides. This knowledge can be integrated through codification and creation (innovation) as well as through mentoring and shared among employees (Botha & Fouché, 2001). Processes that have effectively been implemented by UNZA administration.

The study further revealed that information management practices of information acquisition, codification and distribution were effectively exercised in UNZA's administrative departments. Interview results revealed that this enhanced knowledge creation, innovation and decision making. Evidence of this was that a cumulative percentage of 56% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the university on the statement that processes for information acquisition, codification, and distribution were well established in university administration. The survey findings corroborate with interview results where all respondents recognised information management processes of codification of all administrative transactions. Information management activities are important processes of knowledge creation, codification and effective decision making. The findings of the survey are however, a contradiction of Wamundila's (2008) discovery where he revealed that UNZA lacked knowledge repositories in which operational documents were kept. The contradiction could be because Wamundila's research targeted at the whole university, both academic and organizational knowledge and therefore he could have concentrated asking academic staff on organizational knowledge rather than asking administrative staff. A point of departure with this research study is that it concentrated on administration of the university and the respondents both in the survey and interviews were administrative and management staff. Further, Wamundila (2008) was concerned with existence of knowledge repositories to prove in information management activities were present, whilst this study was concerned with the processes of information management such as acquisition, codification and distribution; processes which did not require repositories. In addition, the findings by Wamundila (2008) could have been true at the time of his study, the improvements and changes could have been effected now, nine years later at the time of this research.

Wamundila & Ngulube (2011) advance that universities should retain their tacit and explicit knowledge in order to compete in the knowledge economy, for knowledge retention also enhances performance. This study revealed that UNZA administration lacked knowledge retention practices. Both the survey and interviews established that knowledge retention was not taking place at all. Survey results reveal that a cumulative percentage of 81.4 % of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, on existence of succession planning, mentoring and exit interviews at UNZA. The lowest score of not taking place at all was the dominant response with 54.7% of respondents, whilst 16% of respondents were aware of the practice and 10.7% indicated that it was being considered for implementation. These results on lack of knowledge retention practices were corroborated with interview results where interviewees explained that there was lack of knowledge retention policy and strategies such as succession planning, mentorship and exit interviews. In addition, it was discovered that there was lack of platforms to transfer and retain knowledge. It was further revealed that it was recent when a new department of University Information Management had been created in the university, responsible for knowledge transfer and retention. The findings of this study are congruent with findings by Wamundila (2008) who discovered that UNZA lacked a number of knowledge retention practices. He categorised such knowledge retention practices that lacked as succession planning, knowledge repositories, mentorship, coaching and phased retirement.

In determining UNZA's administrative work processes of knowledge management, it can thus be concluded that this study established that administrative process at UNZA had a positive contribution to knowledge practices of knowledge creation, integration, and information management. However, the administrative processes did not support a practice of knowledge retention. The profile of the university on administrative processes can therefore be ranked as **progressing well** on the questionnaire of the survey. The university needs to set up administrative processes that can support knowledge retention for the overall processes to be **visible throughout the university** that they are supporting effective knowledge management.

5.5 TECHNOLOGY INFRASTRUCTURE THAT SUPPORT KNOWLEDGE MANAGEMENT IN ADMINISTRATION AT UNZA

Technology infrastructure has been identified as one of the knowledge management enablers that can enhance or inhibit effective knowledge management practices of knowledge creation, knowledge sharing, knowledge transfer and knowledge application (Skyrme 1998; McCammpbell, Clare & Glitters, 1999; Choy & Suk 2005; Arntzen & Ndlela 2009; Suresh 2012). Further, the literature in Chapter Two established that information technology was one of the most important critical success factor for knowledge management implementation in universities (Mathi 2004; Basu & Sengupta 2007; Nuryasin, Prayudi & Dirgahayu 2013; Nasiruzzaman, Qudaih & Dahlan 2013; Yaakub, Othman & Yousif 2014; Shoemaker 2014). The sixth objective of the study was to explore technological infrastructure that supported knowledge management in administration at UNZA. This was meant to find out if technological infrastructure and systems supported effective knowledge management in administration.

The findings of the survey established that the university had an information system architecture that had been implemented to enhance the effective access to information, interpersonal and group communication and collaboration. It is evidenced when a cumulative percentage of 77.3% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the university. These results on availability of information system architecture corroborate with interview results where interviewees were able to identify such systems as the internet, intranet, Student Information System, Accys Peopleware Human Resources and Payroll system, Unicorn Library system, Resident Engineer's system, and the Sage500 Line Accounting system. However, interviewees were quick to mention that not all administrative and management staff had access to all the systems, as accessibility was dependant on the job responsibilities. The interviews most importantly revealed that the usability of the systems identified was not meant for knowledge management purposes. It was established that most administrative and management staff did not use the intranet and other systems because the university leadership had not enforced the use of the systems. The governance of the systems was poor and that in most cases even decisions by university leadership were not based on information and knowledge from the systems. The study therefore established that the university had adequate technology systems architecture but due to low levels of usability, they did not support effective knowledge management practices. A scenario forewarned by

Davenport & Prusak (1998) that effective knowledge management needed a mix of people and technology where people needed to be ready for knowledge management by using technology, failure to which, technology alone does not help.

Further, the study established that technology infrastructure was available and accessible in administrative departments. The survey revealed that a cumulative percentage of 77.3% of respondents indicated higher scores of recently implemented, progressing well and visible throughout the university. These responses were corroborated by interview findings where respondents stated that there was accessibility and connectivity to technology infrastructure such as computers, printers, fibre optic cables, internet, servers and radio links. The majority of interviewees however, lamented that the utilization of the technology infrastructure was very poor in most areas of knowledge management practices, apart from knowledge creation. In most instances, usability was not meant for knowledge management practices, as more often, staff would use them for personal businesses such as social media and online businesses. A critical analysis therefore shows that despite having adequate technology infrastructure, university administration did not fully utilise the infrastructure, and therefore the technology infrastructure did not support effective knowledge management. In as much as technology has been identified by some scholars such as Alavi & Leidner (2001) that it plays an important role in supporting the organizational knowledge process, its utilization by people is of vital importance for effective knowledge management. That is why McCampbell, Clare & Glitters (1999) argued that information technology was one of the key factors that influenced knowledge management implementation, as long as it is well developed and well utilized.

The study also established that the university lacked knowledge management application software. The survey revealed that a cumulative percentage of 53.4% of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, when responding to a statement if dedicated knowledge management software applications were functionally integrated and continuously aligned with the university's formal information systems. The interviews revealed that there was no evidence of knowledge management application software that supported decision making. Some interviewees only identified such systems as the Student Information System and Sage500 Line accounting system as software, but that most of the decisions in administration and management were not made based on data from the said systems. These revelations indicate that the university did not have knowledge management application software and

hence, no support to knowledge management processes. Similar findings were recorded by Botha & Fouché (2002) in the South African business companies where a few, about 32% implemented knowledge management application software.

In view of the above interpretation and discussion on the exploration of technological infrastructure and systems and their support to effective knowledge management, it can be concluded that UNZA has adequate technological infrastructure. However, the identified technology infrastructure are underutilized to support effective knowledge management practices of knowledge sharing and knowledge application. Further, the underutilization has been tolerated by university leadership, since they have not enforced proper usage of these infrastructures. In a similar manner, it can be observed that the culture in administration does not encourage knowledge management practices and therefore there is lack of culture alignment with technology. The university's profile on technology can therefore be ranked as **recently implemented**, because infrastructure is adequate but due to underutilization and improper use, they do not support effective knowledge management at UNZA. UNZA administration and leadership's enforcement of proper utilization of technology infrastructure and systems, acquiring or developing and using knowledge management application software, coupled by addressing administrative culture towards enhancing knowledge management in administration would make technology to move the ranks to **progressing well** on the score of the questionnaire.

5.6 MEASUREMENT OF KNOWLEDGE MANAGEMENT ENABLERS IN ADMINISTRATION AT UNZA

The seventh objective of the study was to identify measures of knowledge management enablers in administration at UNZA. This was done in answering the question whether the knowledge management environment was monitored and evaluated in administration at UNZA. The literate review in Chapter Two identified measurement as an important success factor for knowledge management implementation (Elliot & O'Dell 1999; Botha & Fouché 2002, Hasanalli 2003; Mathi 2004; Suresh 2012). It is thus important for organizations to measure their knowledge environments if knowledge management strategies are to work effectively. Evaluation of knowledge management environment helps organizations to track the progress of knowledge management implementation, as well as to determine its effectiveness and benefits. This is more reason Botha & Fouché (2002) advance that

organizations should evaluate and assess the relationship among culture, structure, processes, technology and leadership in knowledge management.

Measurement of knowledge environment requires different strategies, just as Roth & Lee (2009) argued that such strategies may including assessing organizational performance, effective use of knowledge management tools, evidence based decision making through use of knowledge management application reports and alignment of knowledge management practices with organization objectives, vision and strategy. The study used Roth & Lee (2009) strategies in assessing measurement of knowledge management environment in administration at UNZA. The study established that measurement in terms of performance indicators was not being done. The survey showed that a cumulative percentage of 62.7% of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, on a statement if a formal system to measure and manage administrative intellectual capital was maintained and if such measures were used to assess the contribution that administrative and management staff made towards university performance. The interviews corroborate these survey findings, when the majority of interviewees explained that there was lack of performance measures for administrative staff and therefore their contribution towards university performance was not determined. Lack of performance appraisal systems was identified as a weakness in measuring employee performance and contribution to organizational performance.

The study further established that usage of knowledge management tools was not being monitored and assessed. The survey revealed that a cumulative percentage of 76% of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, on the statement if usage of knowledge management applications and tools by administrative and management staff was regularly monitored and assessed. The response, not taking place at all was dominant with 32% of respondents indicating it. The survey results also corroborate with the interviews where the interviewees mentioned that they were not aware if monitoring and assessment was done. The response provided by two interviewees where systems were used, that the monitoring and assessment was done based on restrictive system privileges and by system administrators, was an explanation of physical use of the systems and not for assessment for knowledge management practices. This is also true to the response by one respondent who worked in CICT that usage of systems were monitored by using the Multi-Router Traffic Grapher (MTRG). For the MTRG only assed the number of hits per minute on the system and not

necessarily how the tools were used for knowledge management purposes. Therefore, usage of knowledge management tools was not monitored nor assessed.

Assessment of the knowledge management environment through knowledge management progress reports was also not done. The survey established that there was lack of a system of monitoring, reporting and continual assessment of knowledge management programmes and practices. This is evidenced in the findings that a cumulative percentage of 68% of respondents indicated lower scores of not taking place at all, aware of this practice and considering implementation, on such a monitoring, reporting and assessment system. With the response not taking place at all being dominant with 38.7% of respondents. The interviews established that there was no assessment of knowledge programmes and practices because there were no such formal knowledge programmes and practices in the first place. Interviewees indicated that knowledge management programmes were not even known by management because the university did not have a knowledge management policy. Majority of interviewees explained that most of the knowledge management practices that were happening in the university were not formally known, but coincidental or accidental and the practices done by employees were not thought as knowledge management programmes.

Further, the survey revealed that alignment of knowledge management practices with university's vision, strategy and objectives as well as culture, structure, processes and technology was fully understood by top management. However, the interviews established that even though top management understood alignment of knowledge practices, the alignment was not being done because there was lack of formalised knowledge management programmes to align with university' vision, strategy and objectives.

In view of the above interpretation and discussion on measurements, the survey established that the knowledge management environment was not monitored and evaluated at UNZA. This is so because the university has not institutionalised formal knowledge management programs and strategies that can be measured. This discovery at UNZA illuminates several problems of why knowledge management cannot be appreciated in university administration. Some knowledge practices are being done, but not known as knowledge practices, rather as employee's routine work processes. The implications are that university performance cannot improve because the university has not yet realised its competitive advantage, through knowledge management. As Grossman (2006) advanced that

knowledge management measurement programmes could improve identification, mapping, monitoring and diffusion of intangible assets, knowledge flow patterns, social networks, critical knowledge issues and best practices in an organization, UNZA is on the losing end because of lack of formal knowledge management programs to measure.

The profile of the university on this section of measurements can therefore be ranked as **not taking place at all**. The findings at UNZA are supported by similar findings in South African business sector where Botha & Fouché (2002) established that very low scores on measurements were recorded because most companies did not have an evaluation plan of their knowledge management programmes. The university needs to develop and implement knowledge management policy and programs that can increase its competitive advantage. Further, measurements of the formally implemented knowledge management programs can make UNZA realise the potential it has to enhance its operations and improve organizational performance to compete favourably in the knowledge economy.

5.7 KNOWLEDGE MANAGEMENT PRACTICES IN ADMINISTRATION AT UNZA

The general objective of the study was to establish what knowledge management practices existed in administration at UNZA. This was done by assessing the knowledge environment using knowledge management enablers as identified by Botha & Fouché (2001). It can thus be advanced that the study had a twofold aim of establishing knowledge management practices as well as assessing the knowledge management environment in administration at UNZA. This section therefore presents established knowledge management practices in administration as identified through the lens of knowledge management enablers. The established knowledge management practices are presented alongside the knowledge management enablers that supported the particular practice.

Having interpreted and discussed the findings of the study, a number of knowledge management practices have been identified to be taking place in administration at UNZA. The knowledge management practices were described in form of statements in the questionnaire that was used. The discussions of the findings established existence of the following knowledge management practices in UNZA's administration:

(i) Knowledge acquisition
(ii) Knowledge creation
(iii) Knowledge collaboration

(iv) Knowledge communication
(v) Knowledge integration
(vi) Knowledge exploitation
(vii) Knowledge awareness
(viii) Knowledge sharing
(ix) Information management

Some of these practices were found to exist or were contributed to more than one knowledge management enabler of the six; vis-a-vis, leadership, culture, structure, processes, technology and measurements.

Knowledge acquisition was established in UNZA administration through assessment of organizational structure which supported the practice through communities of practice of teams and groups where management and administrative staff were appointed into project teams, committees and workshops with multi-disciplinary and cross functional members. Botha & Fouché (2001) agree to this finding when they advance that it is only through allowing people to work in teams and groups, which are multi-disciplinary that knowledge acquisition and integration can be realised. The administrative structure in the same vein contributed to **knowledge integration** and **knowledge exploitation**. It was established that the appointment of management and administrative staff into project teams and committees with multi-disciplinary and cross-functional members, was a way to exploit all embodied knowledge. Knowledge integration was also supported by administrative processes where management and administration engaged core knowledge resources and capabilities across organizational boundaries to face new management and administrative challenges. Knowledge integration was clearly supported by administrative processes, which engaged diverse knowledge resources such as academicians, technician, professional staff, aging workforce and workers' unions in addressing administrative challenges.

Knowledge creation was established in administration at UNZA through involvement of administrative staff in developing policies, work manuals and standard operating procedures. The knowledge management enabler of organizational processes was positively contributing to this practice. Further, knowledge creation was embraced by leadership in their support and involvement in strategic planning and enforcement of the vision in knowledge generation. The administrative structure also supported knowledge creation through appointment of administrative staff into multidisciplinary and cross-functional project teams where knowledge was created.

A practice of **knowledge collaboration** was established through assessment of administrative culture. The findings of the study reveal that UNZA's administrative culture was promoting collaboration where alliances and partnerships among units and departments existed for the purpose of joint knowledge development, innovation and knowledge sharing. Further, **knowledge communication** was established to exist in administration at UNZA. The culture was found to be conducive for knowledge communication because there was intense, open, widespread and free flowing knowledge and information communication through email, memoranda, reports and meetings. Knowledge communication was further supported by technology architecture and infrastructure. Technology is important in many knowledge management practices if only well utilized by the people. Further, administrative culture supported knowledge communication as knowledge and knowledge management were discovered to be regular agenda points for the formal and informal two-way communication sessions held between management and administrative staff. However, knowledge communication should not be confused with knowledge sharing. The communication was found to be basic and ordinary information for routine operations, whereas knowledge sharing should involve exchange of experiences and skills that employees had acquired overtime.

Knowledge awareness exist in administration at UNZA. This was established through assessment of the administrative structure, which proved that specific knowledge management roles were defined in administration and appointment were made to employees who accepted responsibilities to promote knowledge awareness throughout the university. **Knowledge sharing** was established in UNZA's administration. Knowledge sharing was promoted by technology and administrative structure. The existent of adequate technology architecture and infrastructure showed that knowledge was shared. The administrative structure promoted knowledge sharing through communities of practice. The culture of the university only promoted knowledge to a lesser extent because there were a number of challenges such as lack of use of physical workplace environment like open areas, co-located offices and informal meetings. There was also lack of a natural awareness of mutual benefits of sharing knowledge and management rarely recognised knowledge sharing and knowledge creation efforts. Further, numerous challenges were faced by administrative staff in acquiring knowledge from their colleagues. These challenges included conservative and bureaucratic management style, lack of mutual trust and knowledge hoarding. This clearly indicates that the culture factor was not conducive for knowledge management practices in many areas.

Another knowledge management practice that was established to exist in administration at UNZA was **information management**. The survey established that the knowledge management enabler of processes supported knowledge management practice of information management. It was established that processes of information acquisition, codification and distribution were well established in university administration where all administrative transactions were recorded and these transactions such as minutes, resolutions, procedures and policies were used to enhance decision making.

On the other hand, the study established that a number of knowledge management practices were non-existent in administration at UNZA. The missing practices included knowledge contribution, knowledge retention, knowledge application, knowledge management measurement and knowledge alignment. The study established that voluntary knowledge contribution to UNZA's knowledge base was not entrenched among administrative members, teams and groups. This revealed that the administrative culture was not conducive for knowledge contribution. In addition, the administrative structure did not promote knowledge contribution because it lacked incentive systems to motivate staff to contribute their knowledge. Further, the study established that knowledge retention strategies such as succession planning, mentoring and exit interviews were lacking. As evidenced from interviews, the university did not have a knowledge retention policy. Just as Wamundila (2008: iv) noted that UNZA "lacked a number of knowledge retention practices that can enable it to retain operational relevant knowledge", UNZA administration lacked potential to favourably compete in the industry of higher education institutions due to knowledge loss.

Knowledge application was another practice that was missing in administration at UNZA. The study established that knowledge management application software were missing in administration and that decisions were not based on data from systems. It was revealed that despite having a strong and adequate technology architecture and infrastructure, the technology enabler did not support knowledge management in the area of knowledge application. Another practice that was missing was knowledge management measurement. The study revealed that even though there were a number of knowledge management practices established, the university did not implement a formalised knowledge management programme, hence measurement could not be done on non-existent programmes. This was also in relation to knowledge alignment with the vision, strategy and knowledge management enablers of culture, structure, processes and

technology. For alignment can only be achieved if a knowledge management program existed.

5.8 CONCLUSION

The chapter presented the interpretation and discussion of the research findings of the study. The interpretation revealed that UNZA's administration knowledge environment had some enablers that supported knowledge management practices whilst some enablers did not support knowledge management practices. It was established that leadership supported knowledge management practices and aligned with all the other enablers either in a positive way or vice versa. Culture was established not to fully promote knowledge management and therefore, there was need to implement a culture that could support knowledge management practices. The structure was considered to be progressing well in promoting knowledge management practices, but there was need to enhance it through implementation of incentive systems. Processes were progressing well, but needed to be improved in knowledge retention practices, whilst technology was adequate and available for knowledge management practices, its utilization needed to be enforced by leadership. Measures of the knowledge management environment was not taking place at all because there was lack of formalised and institutionalised knowledge management programs.

Further, the chapter presented established knowledge management practices that existed in administration at UNZA. Knowledge management practices that were non-existent were also presented.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 INTRODUCTION

The previous chapter, Chapter Five, presented an interpretation and discussion of research findings in relation to the research objectives and research questions. The interpretation revealed both knowledge management enablers that supported knowledge management practices and that did not support knowledge management practices. UNZA administration had a serious challenge of lack of a formalised knowledge management programme or policy. Nevertheless, some knowledge management practices were taking place. This chapter presents the summary of major findings, deductions, recommendations in form of benchmarking guidelines for knowledge management implementation in university administration and suggestions for future research.

6.1 SUMMARY

In Chapter One, the researcher identified a challenge of ineffective knowledge management in administration at UNZA. Further, the researcher recognised and advanced that effective knowledge management practices could only flourish in an organization if the organizational environment was mature for knowledge management implementation. A study was therefore constructed from this premise that knowledge management practices in administration at UNZA were to be assessed with a lens of knowledge management enablers of the knowledge environment. The study was based on the view by Chen & Burstein (2006:5) that, “knowledge management was not only about managing knowledge but also managing the processes that acted upon the knowledge”. The research therefore sought to establish knowledge management practices that existed in administration at UNZA, with a view on the processes and enablers that acted on the knowledge.

The literature review in Chapter Two revealed that knowledge management practices determined the processes of knowledge creation, acquisition, integration, collaboration, exploitation, application, sharing and communication and these processes required a conducive environment (Scarborough, Swan & Preston 1999). Literature also revealed that knowledge management practices within organizations had concentrated on the resource based view and knowledge creation cycle (Cummings & Teng 2003; Choi & Lee 2003

Wang & Arigyzo 2004; Chang, Lee, Lee & Kang 2004), rather than on the knowledge management practices that acted on the knowledge (Botha & Fouché, 2002). Further, the literature review established that knowledge management studies in universities had concentrated much on academic knowledge and how faculties could improve teaching, learning, research and consultancy (Moss et' al 2007; Kebao & Junxun 2008; Roth & Lee 2009; Sohail & Salina 2009; Daka 2010). Literature revealed that knowledge management in university administration literature was scanty. The only established literature concentrated on one enabler of culture (Mohamad, 2012). More research was established on knowledge management enablers in universities general and thematic extraction of the enablers revealed six main enablers of leadership, culture, structure, processes, technology and measurements (Mathi 2004; Basu & Sengupta 2007; Nuryasin, Prayudi & Dirgahayu 2013; Ali, Sulaiman & Cob 2014; Yaakub, Othman & Yousif 2014; Shoemaker 2014; Zwain Tein & Othman 2014). The thematic extraction of the enablers were discovered to be similar with the adopted conceptual framework from Botha & Fouché (2002) and similar to what Hasanalli (2003) proposed. Chapter Two further discussed the conceptual framework, which guided the study, adopted from Botha & Fouché (2002) who described it as a framework that focussed on the "interrelationship between organizational culture, structure, processes and technology, which constantly align with organizational leadership and are monitored by numerous organizational measures (p.2)".

In Chapter Three, the research methodology is presented detailing the approach and design used. The approach used being a mixed research where both quantitative and qualitative data was collected using a questionnaire and interviews, respectively. The chapter further presented the research design used as a case study. The researchers' role; data sources and selection procedures such as sampling procedures, study sample; data collection methods; data analysis; verification process and ethical considerations were also presented in the chapter. Chapter Four presented the findings of the research for both the survey and the interviews.

In Chapter Five, the research findings were interpreted and discussed in relation to the research objectives and research questions. The major findings revealed that university leadership was involved in knowledge management practices as it communicated the existing vision and strategy at all levels thereby encouraged organizational learning. This result was in confirmation of Botha & Fouché (2002) that most companies in South Africa had a vision and strategy on knowledge management that was well communicated and

mutually shared at all levels and that they considered themselves as learning organizations. It was also established that university leadership played a key role in aligning the enablers of culture, structure, processes, technology and measurements. On the other hand, administrative culture was established to only support knowledge management practices of knowledge communication and collaboration, whilst knowledge sharing faced a number of challenges. Mohamad (2012) identified culture as a critical success factor in knowledge management implementation and therefore should be mature to support all practices centred on it. Therefore, culture was not conducive in administration at UNZA.

It was established that the administrative structure at UNZA was progressing well. The structure supported knowledge management practices such as knowledge acquisition, knowledge integration, knowledge exploitation, knowledge communication, knowledge awareness and knowledge sharing. These findings corroborate Botha & Fouché (2001) recommendations. However, incentive systems were lacking in the structure at UNZA. For the structure to be visible throughout the university as supporting knowledge management, formal incentive systems that would encourage knowledge sharing and contribution should be adopted.

The study established that the processes supported knowledge management and were progressing well. The processes supported knowledge practices such as knowledge creation through involvement of administrative staff in developing policies, work manuals and standard procedures. Processes also supported knowledge integration and information management. These are similar advancements supported by Davenport & Prusak (1998). However, the processes did not support knowledge retention as such processes as succession planning, mentoring and exit interviews did not exist. The lack of knowledge retention practices at UNZA was also observed by Wamundila (2008).

The study further established that UNZA's administration had adequate technology architecture and infrastructure to support knowledge management activities. However, the utilization of the technology was not well governed or enforced by university leadership. This revelation resonates with recommendations by Davenport & Prusak (1998) and McCampbell, Clare & Glitters (1999) that effective knowledge management is a hybrid between people and technology and that it is one of the key factors that influence knowledge management implementation if well organised and utilized, respectively.

The last objective was the measurements of the knowledge management environment. The study established that measurements was not conducted because there was no evidence of formalised and institutionalized knowledge management programs. It is only when an organization has implemented a knowledge management program that the subject of measurement and evaluation comes into play.

6.2 DEDUCTIONS

The assessment of the knowledge management environment in administration at UNZA established that knowledge management enablers existed. Further, the University of Zambia had been active in certain aspects of knowledge management practices and had implicitly applied knowledge management principles. The University of Zambia was doing many knowledge management related things. However, the University had not instituted knowledge management as a formalised practice and therefore these practices were not coordinated and could not be improved. The University needs to apply a high impact intervention on establishing a formalised knowledge management programme or strategy. Further, the university needs to improve the administrative culture that can promote practices of knowledge contribution and knowledge sharing through workplace environment and natural awareness of mutual benefits and recognising knowledge sharing and creation efforts. Another area of intervention should be on the structure to promote knowledge sharing and contribution by establishing formal incentive systems. Interventions should also be directed to administrative processes by developing processes and practices that would promote knowledge retention. University leadership should also enforce effective use of technology and implementation of knowledge management application software for decision making. Monitoring and assessment is the final and most important intervention for effective knowledge management. Measurement should be done on formalized knowledge management programmes and the knowledge environment on how the enablers of leadership, culture, structure, processes and technology are aligned.

Having presented and discussed the major findings, this study presents recommendations in form of benchmarking guidelines for knowledge management implementation in university administration.

6.3 RECOMMENDATIONS: BENCHMARKING GUIDELINES FOR KNOWLEDGE MANAGEMENT IMPLEMENTATION IN UNIVERSITY ADMINISTRATION

The research established that the knowledge management environment in administration at UNZA had a mixture of enablers that were supporting knowledge management practices and other enablers that hindered knowledge management practices. Some enablers were progressing well in supporting knowledge management practices, other enablers were being considered for implementation whilst other enablers were not conducive at all. In this regard, this study presents recommendations for effective knowledge management implementation in university administration. The recommendations are in form of benchmarking guidelines for the knowledge environment. The benchmarking guidelines encompasses the findings of this study, findings from extant literature from the literature review and some features and ideas from Botha & Fouché (2002) Knowledge Management Assessment Model (KMAM).

6.3.1 BENCHMARKING GUIDELINES FOR KNOWLEDGE MANAGEMENT IMPLEMENTATION IN UNIVERSITY ADMINISTRATION

For effective knowledge management implementation in university administration, the knowledge management environment should be assessed and a foundation should be laid upon which knowledge management can flourish. This therefore calls for underlying necessities before a knowledge management strategy can be implemented. These necessities are as follows:

6.3.1.1 Benchmarking Guidelines for University Leadership

University leadership, which is the top management, should fulfil the following benchmarks before a knowledge management programme is implemented:

(i) Develop and support a university vision that embraces knowledge as a critical resource for competitive advantage.

(ii) Participate in strategy formulation through strategic planning that embraces knowledge management and support the processes of strategy development.

(iii) Communicate the vision and strategy to all members of the university and enforce participation in setting and pursuing learning objectives as well as adherence to Higher Education Authority requirements.

(iv) Align and foster practices that enhances knowledge management enablers of culture, structure, processes and technology to support knowledge management practices.

(v) Develop and implement an evaluation plan to measure the knowledge management environment.

It is hoped that once the above benchmarks are met, the University would be ready to adopt and implement a formalised Knowledge management strategy.

6.3.1.2 Benchmarking Guidelines on Administrative Culture

University leadership, upon achieving the set out benchmarks, should also develop an administrative culture that is conducive for knowledge management practices. The following benchmarks are to be met for a culture to be considered conducive for knowledge management:

(i) Atmosphere for intense, open, widespread and free flowing knowledge and information communication that should cut across organizational boundaries and underscored by mutual trust, understanding and respect.

(ii) Existence of collaborative relationships such as alliances and partnerships among units and departments to jointly create and share knowledge.

(iii) Deliberate University management initiatives promoting usage of open areas, co-located offices and informal meeting places as workplaces.

(iv) Existence of formal incentive systems for innovation and knowledge sharing.

(v) Existence of formal training and development programmes in knowledge and information management.

(vi) Knowledge repositories developed and communicated to employees for voluntary knowledge contribution.

Once the above benchmarks are satisfied, this research is on the premise that the culture could be conducive for knowledge management practices of knowledge creation, communication, contribution and application. The above benchmarks to be met requires active involvement by university leadership.

6.3.1.3 Benchmarking Guidelines on Structure

The structure of university administration acts as one of the critical factors that supports effective knowledge management. This study established that structure

requires university leadership involvement for it to effectively support knowledge management practices of knowledge acquisition, knowledge exploitation, knowledge awareness, knowledge communication, knowledge sharing and knowledge transfer. University leadership should therefore ensure that the following structure benchmarks are met if a knowledge management strategy has to succeed:

(i) Appointment of management and administrative staff into project teams, committee and workgroups with multi-disciplinary and cross-functional members.

(ii) Embedded specific knowledge management roles into job descriptions of all administrative staff and promotion of knowledge management awareness should be a crosscutting responsibility for all employees.

(iii) Communication sessions between management and administrative staff should have knowledge and knowledge management as regular agenda points for discussion.

(iv) Implementation of incentive systems that recognise sustenance of university's knowledge base.

(v) Existence of established well-structured formal relationships with other universities and shared knowledge objectives in administration.

As established by this study and recommendations from Botha & Fouché (2002), a positive assessment on the above benchmarks on the structure of an organization can promote knowledge management practices.

6.3.1.4 Benchmarking Guidelines on Administrative Processes

Processes are cardinal in managing organizations. The leadership of the university should ensure that the processes in administration are promoting and contributing towards achieving the goals and vision of the organization. It is thus important that the processes in administration should meet certain parameters to be considered in promoting effective knowledge management. The following processes benchmarks should be realised, with the participation of university leadership:

(i) Administrative staff should be involved in developing policies, work manuals and standard operating procedures.

(ii) In times of new management and administrative challenges, core knowledge resource and capabilities across organizational boundaries should be

engaged. These resources could be academicians, technical staff, professional staff, aging workforce, worker's unions as well as new employees.

(iii) Established processes for information acquisition, codification and distribution in university administration.

(iv) Established knowledge retention practices of succession planning, mentoring, and exit interviews.

It is hoped that if the above benchmarks are met, the organization administrative processes could be seen as supporting effective knowledge management.

6.3.1.5 Benchmarking Guidelines for Technology

The study through literature review revealed that technology is one of the important factors that influence knowledge management implementation (McCampbell, Clare & Glitters, 1999). Further, technology facilitates quick search, access of information cooperation and communication between organizational members (Yeh et' al, 2006). Technology should support organizational knowledge processes. As Botha & Fouché (2001) advance that information system architecture should be aligned to support and accommodate knowledge management applications as well as provide people-to-people information connectivity and networkability. The following benchmarks should act as underlying measurement for technology support to knowledge management:

(i) Existence of information systems such as groupware, intranet and portals, designed to enhance the effective access to information.

(ii) Existence of purposefully deployed and integrated information technology infrastructure with sufficient and efficient accessibility to all administrative members.

(iii) Availability of functionally integrated knowledge managent application software.

(iv) University leadership enforcement plan for utilization of the technology systems and infrastructure.

Availability of the above technology benchmarks and proper university leadership governance of the technology can act as return on investment on effective knowledge management implementation.

6.3.1.6 Benchmarking Guidelines on Measurements

Upon implementation of a formalized knowledge management programme, university leadership should be ready to measure or rather evaluate the progress of implementation. Measurements also helps organizations, in this case the university to determine the benefits and effectiveness of knowledge management. Further, the measurements also helps to ascertain the level of alignment of the knowledge management enablers of culture, structure, processes and structure (Botha & Fouché, 2002). Measurements require a number of strategies which university leadership should meet. The following are benchmarks for measurements:

(i) Existence of a formal performance measuring system to measure and manage administrative staff and asses their contribution to university performance.

(ii) Established monitoring and assessment mechanisms for assessing usage of knowledge managent tools.

(iii) A reporting system of progress on monitoring, reporting and continued assessment of knowledge managent programmes.

(iv) University leadership alignment strategies of knowledge managent practices with university's vision, strategy and objectives as well as culture, structure, processes and technology.

It is hoped that with the above measures in place, the university can assess the knowledge managent contribution to university performance.

6.4 SUGGESTIONS FOR FUTURE RESEARCH

This study achieved its aim of establishing knowledge management practices that existed in administration at UNZA and assessment of the knowledge managent environment. Further, the study has developed benchmarking guidelines for knowledge management implementation in university administration. The established gaps as well as existence of some knowledge management enablers formed the basis for the recommendations made in the benchmarking guidelines. The assessment of the knowledge management environment in university administration and the recommended benchmarking guidelines provides a roadmap on how to evaluate the maturity of university administration for knowledge managent implementation. The recommended benchmarking guidelines could be adapted

by other public universities to determine their readiness for knowledge management implementation in administration.

Implementing knowledge management programs requires preparedness and development of knowledge management strategies. Therefore, having assessed the knowledge managent environment and establishing the existing knowledge management practices in university administration, this research proposes that a study be done to develop knowledge managent strategies in university administration. The development of an implementation framework for the strategies is also recommended.

6.5 CONCLUSION

This chapter presented the summary of the study, conclusions of the major findings of the study, and recommendations in form of benchmarking guidelines for knowledge management implementation in university administration. Further, the chapter presented the suggestions for future research.

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APPENDICES

Appendix I: Knowledge Management Practices Data Collection Instrument

STELLENBOSCH UNIVERSITY
DEPARTMENT OF INFORMATION SCIENCE
CENTRE FOR KNOWLEDGE DYNAMICS AND DECISION MAKING

KNOWLEDGE MANAGEMENT PRACTICES DATA COLLECTION INSTRUMENT

INTRODUCTION

My name is Makani Mvula. I am carrying out research for my Master of Philosophy thesis at the University of Stellenbosch. My topic is **Knowledge Management Practices in the Administration of a Public University: A Case of the University of Zambia.** The research objectives for my study are to:

i) identify what knowledge management practices exist in administration at the University of Zambia.
ii) assess leadership involvement in knowledge management at UNZA.
iii) explore UNZA organizational culture in knowledge management.
iv) examine UNZA's organizational structure with regard to knowledge management.
v) determine UNZA organizational processes of knowledge management.
vi) explore technological infrastructure which support knowledge management at UNZA.
vii) identify measurements of knowledge management enablers at UNZA.

You have been randomly selected to participate in this survey. Please be assured that your views will not be used for any other purpose other than the purpose of this study. The information which you will provide will be treated with utmost confidentiality and shall not in any way be used to cause damage to your reputation, integrity, emotions or professional conduct.

INSTRUCTIONS

1. SECTION A: This section is about personal details.

   i) Write in the provided spaces where appropriate, and tick in appropriate boxes as provided.

2. SECTIONS B to G: These are sections assessing Knowledge Management Practices at UNZA.

   i) There are definitions of terms that you may not be familiar with at the beginning of each section.

   ii) The assessment items are in a statement format. The statement attempt to describe how a world class organization will perform the particular knowledge management practice. The objective is to evaluate the University of Zambia administration against these statements and allocate one score for each statement. The quality of the different aspects is assessed on a scale of 0-5. The scores have the following meaning:

Score	Verdict
0	Not taking place at all
1	Aware of this practice
2	Considering implementation
3	Recently implemented
4	Progressing well
5	Visible throughout the organization

   iii) Please tick in one of the boxes against each assessment criteria.

SECTION A: PERSONAL DETAILS

1. a) Rank: ……

b) Department: ……...

c) Duration in current position: …….....

d) Highest Qualification: …….....

e) Age range

i) < 25 years ☐

ii) 26-30 years ☐

iii) 31-35 years ☐

iv) 36- 40 years ☐

v) 41-45 years ☐

vi) 46-50 years ☐

vii) > 51 years ☐

f) What is your gender?

i) Female ☐

ii) Male ☐

g) Number of years you have worked in higher education administration.

i) < 1 year ☐

ii) 1-4 years ☐

iii) 5-8 years ☐

iv) 9 or more years ☐

SECTION B: LEADERSHIP

ITEM	DESCRIPTION						
2	**LEADERSHIP (Definition and instruction)** **Knowledge Leadership is defined as organizational management having a clear vision of the knowledge contribution to the business, articulating and communicating it well, coupled with inspirational motivation. Top management in the organization should get involved in promoting knowledge management through strategic planning, vision, mission and strategies put in place to support knowledge management.** (In this section you are requested to assess whether knowledge leadership exist at UNZA, supporting knowledge creation and application through the organization vision, strategy and organizational learning)						
		SCORE					
		0	**1**	**2**	**3**	**4**	**5**
2.1	**Vision:** UNZA has a vision on the critical importance of knowledge for the achievement of its objectives. This is clearly articulated and mutually shared by all members.						
2.2	**Strategy:** UNZA has implemented a strategy to create and apply knowledge that aligns with the operational objectives of enhancing administrative decision making and performance. This knowledge strategy has been clearly and purposefully communicated to all levels.						
2.3	**Organizational Learning:** Learning objectives with respect to knowledge gained from adapting to Higher Education Authority requirements as well as student needs are jointly set and actively pursued by administrative departments.						

SECTION C: CULTURE

ITEM	DESCRIPTION	SCORE					
		0	1	2	3	4	5
3	**CULTURE (Definition and instruction)** **Organizational culture is a set of values, beliefs, norms, meaning and procedures shared by organization members. Positive culture can encourage knowledge sharing, contribution, collaboration and cooperation between organizational members. A culture characterised by openness and trust, access to information, communication and collaboration across departmental boundaries and hierarchical levels, the accessibility of senior management, empowerment of individuals and teams, incentives for knowledge sharing, and a propensity of experiment and learn, is considered to be conducive to the effective creation and application of knowledge in organizations.** (In this section you are requested to explore the organizational culture at UNZA, supporting knowledge creation, contribution and application through knowledge communication, collaboration, workplace environment and knowledge sharing)						
3.1	**Communication:** UNZA has an intense, open, widespread and free flowing knowledge and information communication in administration and across organizational boundaries which is underscored by mutual trust, understanding and respect.						
3.2	**Collaboration:** Collaborative relationships exist in forms of alliances and partnerships among units and departments for the purpose of joint knowledge development, innovation and knowledge sharing.						
3.3	**Workplace:** Knowledge sharing and information exchange is promoted in administration by management support and encouragement through the use of physical work environment (open areas, co-located offices and informal meeting places).						
3.4	**Knowledge sharing:** A natural awareness of mutual benefits of sharing knowledge is instilled in all administrative staff and has become a way of life. Management recognizes knowledge sharing and knowledge creation efforts and firmly discourages knowledge and information hoarding.						
3.5	**Knowledge contribution:** A culture of voluntary contribution to UNZA's knowledge base is widely entrenched among all administrative members, teams and groups. Utilization of the knowledge-base is also well engrained as standard operating procedure.						

SECTION D: STRUCTURE

ITEM	DESCRIPTION						
4	**STRUCTURE (Definition and instruction)** **Organizational structure is defined as the formal allocation of work roles and administrative mechanism to control and integrate work activities. Organizational structure also reflects the way in which information and knowledge is distributed within an organization, which affects the efficiency of their utilization. Consequently, it substantially influences the distribution and coordination of the company's resources, the communication processes and the social interaction between organizational members.** (In this section you are requested to assess UNZA's organizational structure on how it promotes knowledge creation, knowledge acquisition, knowledge transfer and knowledge sharing through communities of practice (teams and groups), knowledge management roles, management communication, incentive systems and external structures.)						
		SCORE					
		0	**1**	**2**	**3**	**4**	**5**
4.1	**Teams and Groups:** Management and administrative staff are appointed into project teams, committees or workgroups with multi-disciplinary and cross-functional members in order to exploit all embodied knowledge.						
4.2	**Knowledge management roles:** Specific knowledge management roles in management and administration are defined, appointments made and responsibilities allocated. Employees in the appointed positions accept responsibility to promote knowledge management awareness throughout the organization.						
4.3	**Management communication:** Knowledge and knowledge management are regular agenda points for the formal and informal two-way communication sessions held between management and administrative staff.						
4.4	**Incentive systems:** Incentive systems for motivating staff with administrative roles to sustain UNZA's knowledge base are institutionalized and successfully applied.						
4.5	**External structures:** Management has established well-structured formal relationships with other universities. Shared knowledge objectives in administration and how to achieve them are agreed upon with these universities.						

SECTION E: PROCESSES

ITEM	DESCRIPTION	SCORE					
		0	1	2	3	4	5
5	**PROCESSES (Definition and instruction)** **Knowledge processes refers to something that can be done with knowledge in the organization. Processes can be described as methods and systems for creating, acquiring, capturing, disseminating and applying experiences, for the benefit of an organization. Clear processes of knowledge creation, acquisition, sharing and application are vital enablers of effective knowledge management implementation in higher education institutions. The processes of knowledge management should be imbedded into efficient organizational routines.** (In this section you are requested to identify UNZA organizational processes which promote knowledge creation, integration, codification, transfer and retention, through development of procedures, knowledge integration, information management and knowledge retention)						
5.1	**Standard operating procedures:** Members of staff with administrative roles are involved in developing policies, work manuals and standard operating procedures.						
5.2	**Knowledge integration:** UNZA management and administration readily engages core knowledge resources and capabilities across organizational boundaries/functions to face new management and administrative challenges. These are integrated with efficiency and speed using new knowledge to continuously adapt well-proven administrative processes.						
5.3	**Information management:** Processes for information acquisition, codification, and distribution are well established in university administration. These processes are used to enhance knowledge creation, innovation and decision making.						
5.4	**Knowledge retention:** Succession planning, mentoring and exit interviews exist at UNZA						

SECTION F: TECHNOLOGY

ITEM	DESCRIPTION	SCORE					
		0	1	2	3	4	5
6	**TECHNOLOGY (Definition and instruction)** **Knowledge management technologies are tools that support the knowledge creation, knowledge sharing and knowledge application processes through the conversion of knowledge from inputs to outputs. Technological infrastructure enhance knowledge inputs by condensing, filtering and presenting data, storing it, facilitating its flow through the organization and finally supporting the thinking processes that inform effective decision making.** (In this section you are requested to assess UNZA's information technology and its contribution to knowledge management in administration and management of the university)						
6.1	**Information system architecture:** UNZA has implemented information systems designed to enhance the effective access to information, interpersonal and group communication and collaboration. Examples are groupware, intranet and portals.						
6.2	**Information technology infrastructure:** UNZA's information technology infrastructure is purposefully deployed and integrated to ensure sufficient and efficient accessibility and connectivity to all administrative members.						
6.3	**Knowledge management application software:** Dedicated knowledge management software applications are functionally integrated and continuously aligned with the university's formal information system. This system is available and accessible to all administrative and management members and is used with commitment and dedication for the purpose of decision making (Examples are data warehousing, data mining tools and decision support systems).						

SECTION G: MEASURES

ITEM	DESCRIPTION	SCORE					
		0	1	2	3	4	5
7	**MEASURES (Definition and instruction)** **Measurement refers to organizations' knowledge management evaluation plan that identifies knowledge management enablers and how their interrelationships provide a valid assessment of their knowledge management value. Measurement enables organizations to track the progress of knowledge management and to determine its benefits and effectiveness.** (In this section you are requested to assess UNZA's evaluation plan for knowledge management enablers of leadership, culture, structure, processes and technology)						
7.1	**Performance indicators:** A formal system to measure and manage administrative intellectual capital is maintained. The measures are used to assess the contribution that administrative and management staff makes towards the university performance.						
7.2	**Usage of knowledge management tools:** Usage of knowledge management applications and tools by administrative and management staff is regularly monitored and assessed.						
7.3	**Knowledge management progress reports:** A system of monitoring, reporting and continual assessment of knowledge management programs and practices is maintained.						
7.4	**Alignment:** Top management fully understand/realizes the importance of continually aligning the knowledge management practices with the university's vision, strategy and objectives as well as culture, structure, processes, and technology						

PLOT THE UNIVERSITY'S PROFILE

(by indicating X covering the box, depending on how you answered the questionnaire. e.g as shown in 2.1,5**)**

	Leadership			**Culture**					**Structure**					**Processes**				**Technology**			**Measures**			
5	**X**																							
4																								
3																								
2																								
1																								
0																								
	2.1	2.2	2.3	3.1	3.2	3.3	3.4	3.5	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	6.1	6.2	6.3	7.1	7.2	7.3	7.4

Scores

Question numbers

Appendix II: Interview Guide

STELLENBOSCH UNIVERSITY

DEPARTMENT OF INFORMATION SCIENCE

CENTRE FOR KNOWLEDGE DYNAMICS AND DECISION MAKING

INTERVIEW GUIDE

INTRODUCTION

Good morning/afternoon/evening dear Professor/Dr./Mr./Mrs/Respondent/interviewee …….

My name is Makani Mvula. I am carrying out a research for my Masters of Philosophy thesis at the University of Stellenbosch. My topic is **Knowledge Management Practices in the Administration of a Public University: A Case of the University of Zambia.** You have been purposively selected to participate in this research.

Please be assured that your views will not be used for any other purpose other than the purpose of this study. The information which you will provide will be treated with utmost confidentiality and shall not in any way be used to cause damage to your reputation, integrity, emotions or professional conduct. Your participation is voluntary and you are free to withdraw from the process at any point during the interview process.

Kindly take note that this interview session will be based on six sections. Section one has questions on knowledge leadership, section two has questions on organizational culture, section three has questions on organizational structure, section four has questions on organizational knowledge management processes, section five has questions on technology and section six has questions on measurements. You are at liberty to ask questions where you may not be clear.

Thank you

TOPIC:

KNOWLEDGE MANAGEMENT PRACTICES IN THE ADMINISTRATION OF THE UNIVERSITY OF ZAMBIA.

Date of interview: _____

Place of interview: _____

Rank of interviewee: _____

Gender of interviewee: _____

AIM OF THE RESEARCH

To establish what knowledge management practices exist in administration at UNZA

Research objectives

i) identify what knowledge management practices exist in administration at the University of Zambia.

ii) identify what knowledge management practices existed in administration at the University of Zambia.

iii) assess leadership involvement in knowledge management at UNZA.

iv) explore UNZA's administrative culture in knowledge management.

v) examine UNZA's administrative and organizational structure with regard to knowledge management.

vi) determine UNZA administrative processes of knowledge management.

vii) explore technological infrastructure which support knowledge management in administration at UNZA.

viii) identify measurements of knowledge management enablers in administration at UNZA.

SECTION A
INTRODUCTION TO KNOWLEDGE MANAGEMENT

KNOWLEDGE

Knowledge is viewed as a conviction of truth of an individual after gaining a combination of experience; values, contextual information and expert insight that help evaluate and incorporate new experience and information. Knowledge is demonstrated through people's actions and behaviours after being embedded in their minds overtime.

KNOWLEDGE MANAGEMENT

Knowledge management encompasses the manipulation of all knowledge related activities, practices, programmes and policies in the organization with the ultimate aim of applying existing organizational knowledge to create new knowledge. Knowledge management can be referred to be processes by which knowledge is created, shared and used in organizations.

KNOWLEDGE MANAGEMENT PRACTICES

Knowledge management practices are organizational capabilities that cover any intentional and systematic process or practice of creating, acquiring, capturing, storing, sharing, transmitting and using productive knowledge wherever it resides to enhance learning and performance in organizations.

SECTION B

1. LEADERSHIP

Knowledge Leadership refers to organizational management having a clear vision of the knowledge contribution to the business, articulating and communicating it well, coupled with inspirational motivation. Top management in the organization should get involved in promoting knowledge management through strategic planning, vision, mission and strategies put in place to support knowledge management.

1.1 What role does UNZA management play in promoting knowledge management practices?

1.2 How does the vision for UNZA embrace knowledge management?

1.3 How does UNZA management get involved in preparation and communication of the University Strategic plan?

SECTION C

2. CULTURE

Organizational culture is a set of values, beliefs, norms, meaning and procedures shared by organization members. Positive culture can encourage knowledge sharing, contribution, collaboration and cooperation between organizational members. A culture characterized by openness and trust, access to information, communication and collaboration across departmental boundaries and hierarchical levels, the accessibility of senior management, empowerment of individuals and teams, incentives for knowledge sharing, and a propensity of experiment and learn, is considered to be conducive to the effective creation and application of knowledge in organizations.

2.1: a) How is knowledge communicated and shared in administration at UNZA? (Probe for the following if not mentioned: open areas, co-located offices and informal meeting places.)

b) What are some of the challenges faced by administrative staff when acquiring knowledge from each other? (Probe for any of the following if not mentioned: mutual trust, understanding, respect, knowledge hoarding).

2.2: a) What are some of the efforts employed by management to encourage knowledge sharing and knowledge creation?

b) What measures has management put in place to discourage knowledge and information hoarding?

2.3: How do administrative staff voluntary contribute to organizational knowledge base?

SECTION D

3. STRUCTURE

Organizational structure is defined as the formal allocation of work roles and administrative mechanism to control and integrate work activities. Organizational structure also reflects the way

in which information and knowledge is distributed within an organization, which affects the efficiency of their utilization. Consequently, it substantially influences the distribution and coordination of the company's resources, the communication processes and the social interaction between organizational members.

3.1 Apart from their office work and job descriptions, what means does management use to engage administrative staff to exploit multi-disciplinary embodied knowledge in the university? (Probe if any of the following has not been mentioned: appointment into project teams, committees, or workshops).

3.2 How are knowledge management roles embedded in administrative staff job responsibilities?

3.3 What are some of the recognised incentive systems used by management to motivate administrative staff to sustain the university's administrative knowledge base and how are these incentives systems adhered to?

3.4 How does the university management share administrative knowledge with other universities?

SECTION E

4. PROCESSES

Knowledge processes refers to something that can be done with knowledge in the organization. Processes can be described as methods and systems for creating, acquiring, capturing, disseminating and applying experiences, for the benefit of an organization. Clear processes of knowledge creation, acquisition, sharing and application are vital enablers of effective knowledge management implementation in higher education institutions. The processes of knowledge management should be imbedded into efficient organizational routines**.**

4.1 What roles do management and administrative staff plays in development of policies, work manuals and standard operating procedures?

4.2 What knowledge processes in university administration, which promote innovation and decision making, are you aware of?

4.3 What are some of the mechanisms used to transfer and retain knowledge from aging, retiring and exiting administrative workforce? (Probe if the following are not mentioned: succession planning, mentorship, communities of practice, knowledge repositories, job rotations, phased retirement, exit interviews, development of work manuals,.etc).

4.4 In situations of new administrative challenges, which groups of employees or knowledge resources and capabilities are engaged to face the new challenges?

SECTION F

5. TECHNOLOGY

Knowledge management technologies are tools that support the knowledge creation, knowledge sharing and knowledge application processes through the conversion of knowledge from inputs to outputs. Technological infrastructure enhance knowledge inputs by condensing, filtering and presenting data, storing it, facilitating its flow through the organization and finally supporting the thinking processes that inform effective decision making.

5.1 What are the widely available and actively used information systems by management and administrative staff? And how are these used? (Probe if the following are not mentioned: groupware, intranets and portals,: enhancing effective access to information, interpersonal and group communication and collaboration).

5.2 What are some of the information technology infrastructure available and purposively deployed and integrated to ensure sufficient and efficient accessibility and connectivity to all management and administrative staff?

5.3 What knowledge management software applications are functionally integrated and accessible to all management and administrative staff for decision making? (Probe if the following are not mentioned: data warehousing, data mining tools, decision support systems).

SECTION G

6. MEASURES

Measurement refers to organizations' knowledge management evaluation plan that identifies knowledge management enablers and how their interrelationships provide a valid assessment of their knowledge management value. Measurement enables organizations to track the progress of knowledge management and to determine its benefits and effectiveness.

6.1 How does the university measure the contribution of management and administrative staff towards the university performance?

6.2 How is the use of knowledge management applications by management and administrative staff monitored and assessed?

6.3 How are knowledge management programmes and practices monitored and assessed?

NOTE: This document is just a guide. Therefore, certain questions may not be asked depending on responses from the interviewees.

Thank you for accepting to participate in this research and for you your time to answer the questions.

Appendix III: Consent Form to participate in research

STELLENBOSCH UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

Knowledge Management Practices in the Administration of a Public University: A Case of the University of Zambia.

You are asked to participate in a research study conducted by Mr. Makani Mvula (PgDipKISM, BALIS), from the Department of Information Science at Stellenbosch University. The results of this research will be contributed to a Master's thesis in Information and Knowledge Management (MIKM) You were selected as a possible participant in this study because you are in management and administrative position at the University of Zambia and therefore you are eligible to participate in this research because you have management, administrative and knowledge management roles in the university.

i) PURPOSE OF THE STUDY

The study is designed to establish knowledge management practices in administration at the University of Zambia.

ii) PROCEDURES

If you volunteer to participate in this study, you will be asked to do either of the following things:

i) Participate in an interview to answer questions on Knowledge Management Practices in Administration at UNZA., Or

ii) Answer a questionnaire on Knowledge Management Practices in Administration at UNZA.

The activity to participate in will be based on the roles you play in management at the University of Zambia. Senior management members have been purposively sampled to participate in interviews whilst middle management and lower management members have been randomly sampled to participate in a questionnaire survey.

The interview will carry a maximum of 40 minutes whilst a questionnaire has approximately 25 questions.

iii) POTENTIAL RISKS AND DISCOMFORTS

The research may be inconveniencing due to time to participate in interviews or to answer questionnaire survey. The researcher will make an appointment for interviews and the participant will set the time and date when they are free to participate in the interview. The questionnaire survey will have an ample time period of two (2) weeks to be answered in order for participants to have enough time to answer the questionnaire.

There are no physical or psychological risks to participate in this study.

iv) POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The research will benefit university administrators and managers in effective knowledge management practices' implementation.

v) PAYMENT FOR PARTICIPATION

Participants in this research will not receive any payment.

vi) CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of coding questionnaires and the data will be kept under lock and key by the researcher. Only the researcher will have access to the data. No names shall be requested from you.

The interview will be recorded on audio and you shall have absolute rights to review and edit the tapes. The audio recordings will only be accessed by the researcher and they will be erased after a research report has been submitted for examination, approximately six (6) months after the interview.

The publication of results will not disclose any names for participants.

vii) PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw

you from this research if circumstances arise which warrant doing so. The investigator may terminate your participation if you:

i) Fall ill during the study and unable to participate in the study,

ii) Travel outside the country for the period of the study, and/or

iii) Are not available on several times to answer the questionnaire or participate in the interview.

viii) IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact the following:

Principal Investigator: Mr. Makani Mvula
Assistant Registrar
The University of Zambia
School of Education
P.O Box 32379
Lusaka
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Department of Information Science
Private Bag X1
Matieland
7600
Email: chm2@sun.ac.za
Tel: (+27) 21 808 2423

ix) RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to me by Mr. Makani Mvula in English and I am in command of this language. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

_____

Name of Participant

_____

Name of Legal Representative (if applicable)

_____ _____

Signature of Subject/Participant or Legal Representative **Date**

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [*name of the subject/participant]* and/or [his/her] representative _____ [*name of the representative]*. *[He*/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in English and no translator was used.

_____ _____

Signature of Investigator ***Date***

Appendix IV: Request to conduct research at UNZA

THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION

INTERNAL MEMORANDUM

TO	:	Acting Registrar
FROM	:	Mr. Makani Mvula, Assistant Registrar (School of Education)
DATE	:	26th August, 2016
SUBJECT	:	**PERMISSION TO CONDUCT A SURVEY AND INTERVIEW MEMBERS OF STAFF**

Reference is made to the above subject matter.

I am currently studying for my Masters degree at the University of Stellenbosch through part-time study. I have completed my course work and I am now expected to undertake a research for my Masters thesis. My research topic is **KNOWLEDGE MANAGEMENT PRACTICES IN THE ADMINISTRATION OF A PUBLIC UNIVERSITY: A CASE OF THE UNIVERSITY OF ZAMBIA.** Upon successful completion of this research study, I shall be conferred with a Master of Philosophy in Information and Knowledge Management (MIKM). I therefore request your authority to have access to a list of management and administrative members of staff who will be part of my sample. I further request your permission to allow me to conduct a survey among middle management and lower management staff and interview some senior management staff within the university.

Your positive consideration of this request will be highly appreciated.

M. Mvula

Makani Mvula (Mr.)

ASSISTANT REGISTRAR, SCHOOL OF EDUCATION

cc. Deputy Registrar (Administration)

Appendix V: Permission to conduct research at UNZA

THE UNIVERSITY OF ZAMBIA
OFFICE OF THE REGISTRAR

Telephone: +260-211-295 220 (291 777)
Telegram: UNZA LUSAKA
Telex: UNZALU ZA 44370
Fax: +260-1-253 952

P.O. Box 32379
Lusaka,10101
ZAMBIA
Email:registrar@unza.zm

16th September, 2016

Mr. Makani Mvula
University of Zambia
School of Education
P O Box 32379
LUSAKA

Dear Mr. Mvula,

RE: PERMISSION TO CONDUCT A SURVEY AND INTERVIEW MEMBERS OF STAFF

Reference is made to the letter dated 26th August 2016, on the matter captioned above.

This serves to inform you that your request to undertake research on **"Knowledge Management Practice in the Administration of a Public University: a case of the University of Zambia"** has been granted. This is to enable you complete your Masters of Philosophy in Information and Knowledge Management (MIKM) degree at the University of Stellenbosch through Part-time study.

By copy of this letter, the Director-CICT, Deputy Registrar (Administration) and all relevant Offices are hereby notified of the approval.

Sitali Wamundila (Mr.)
ACTING REGISTRAR

c.c. Vice-Chancellor
Deputy Vice-Chancellor
Director, CICT
Deputy Registrar (Administration)

Appendix VI: Stellenbosch University Research Ethics Committee Approval

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot • your knowledge partner

Approval Notice
New Application

14-Nov-2016
Mvula, Makani M

Proposal #: SU-HSD-003628
Title: Knowledge Management Practices in the Administration of a Public University: A Case of the University of Zambia.

Dear Mr Makani Mvula,

Your **New Application** received on **18-Oct-2016**, was reviewed
Please note the following information about your approved research proposal:

Proposal Approval Period: **14-Nov-2016 -13-Nov-2019**

General comments:
The researcher is reminded to submit a signed copy of the institutional permission granted by the University for his study. The researcher is furthermore advised to rather not include the identity of the university in the title of his written thesis without explicit permission from the university that their identity be reflected in the title. It is preferred that the name be ommitted from the project title or the university be referred to as a "public university".

Please take note of the general Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

Please remember to use your **proposal number** (**SU-HSD-003628**) on any documents or correspondence with the REC concerning your research proposal.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Also note that a progress report should be submitted to the Committee before the approval period has expired if a continuation is required. The Committee will then consider the continuation of the project for a further year (if necessary).

This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki and the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health). Annually a number of projects may be selected randomly for an external audit.

National Health Research Ethics Committee (NHREC) registration number REC-050411-032.

We wish you the best as you conduct your research.

If you have any questions or need further help, please contact the REC office at 218089183.

Included Documents:
REC: Humanities New Application

Sincerely,

Clarissa Graham
REC Coordinator
Research Ethics Committee: Human Research (Humanities)

Appendix VII: Request to include identity of the University (UNZA) in the title of thesis

THE UNIVERSITY OF ZAMBIA
SCHOOL OF EDUCATION

INTERNAL MEMORANDUM

TO : Registrar

FROM : Mr. Makani Mvula, Assistant Registrar (School of Education)

DATE : 11th January, 2017

SUBJECT : **PERMISSION TO USE THE NAME OF THE INSTITUTION "THE UNIVERSITY OF ZAMBIA (UNZA)" IN MY MASTERS THESIS**

Reference is made to the above subject.

I am currently studying for my Masters degree at the University of Stellenbosch through part-time study. Following your approval letter dated 16th September, 2016, to conduct research at the University of Zambia, I have since concluded my research and I am writing the thesis. My University's Research Ethics Committee, **the University of Stellenbosch Research Ethics Committee: Humanities,** approved my research proposal and gave a condition that I should not include the identity of the university in the title of the written thesis without explicit permission from your institution.

It is against this background that I seek your permission to include the identity of your institution **"The University of Zambia"** in the title of my thesis. The title of my thesis will read **'KNOWLEDGE MANAGEMENT PRACTICES IN THE ADMINISTRATION OF A PUBLIC UNIVERSITY: A CASE OF THE UNIVERSITY OF ZAMBIA'.**

Find attached the approval letter for my research from the University of Stellenbosch Research Ethics Committee.

Your positive consideration of this request will be highly appreciated.

M. Mvula

Makani Mvula (Mr.)
ASSISTANT REGISTRAR, SCHOOL OF EDUCATION

Appendix VIII: Permission to to include identity of the University (UNZA) in the title of thesis

THE UNIVERSITY OF ZAMBIA

Email: registrar@unza.zm
Tel/Fax +260 211 253952
Telex: ZA 44370

Registrar's Office
P.O. BOX 32379
Lusaka, Zambia

18th April 2017

Mr. Makani Mvula
Assistant Registrar
School of Education
P O Box 32379
Lusaka

Dear Mr. Makani,

RE: PERMISSION TO USE THE NAME OF THE INSTITUTION "THE UNIVERSITY OF ZAMBIA (UNZA)" IN YOUR MASTERS THESIS

Reference is made to your memorandum erroneously dated 11th January 2017 but received on 11th April 2017, regarding the above subject.

This serves to inform you that approval has been granted for you to use the name **"University of Zambia (UNZA)"** in your Masters Thesis entitled **"Knowledge Management Practices in the Administration of a Public University: A Case of the University of Zambia".** This is to enable you complete your Masters degree at the University of Stellenbosch, South Africa.

By copy of this letter, all relevant offices are informed of the approval.

Sitali Wamundila (Mr.)
REGISTRAR

c.c. Vice-Chancellor
Deputy Vice-Chancellor
Deputy Registrar (Administration)